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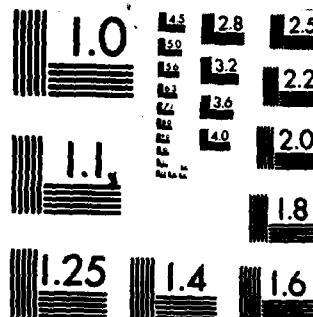
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THE HISTORY OF A MILITARY COMMAND
IN THE FEDERAL GOVERNMENT
AND THE U.S. FEDERAL RESERVE

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THE INDUSTRIAL COLLEGE OF THE ARMED FORCES
NATIONAL DEFENSE UNIVERSITY

MOBILIZATION STUDIES PROGRAM REPORT

THE IMPACT OF A MILITARY CRISIS UPON FEDERAL FINANCE
AND THE U. S. FINANCIAL NETWORK

by

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A RESEARCH REPORT SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE RESEARCH
REQUIREMENT

RESEARCH SUPERVISOR: DR. DONALD L. LOSMAN

THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

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ABSTRACT OF STUDENT RESEARCH REPORT INDUSTRIAL COLLEGE OF THE ARMED FORCES

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TITLE OF REPORT

The Impact of a Military Crisis Upon
Federal Finance and The U.S. Financial
Network

SECURITY CLASSIFICATION OF REPORT

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ABSTRACT

Problem Statement: A significant aspect of successful mobilization is the government's ability to finance defense expenditures without debilitating the nation's production base. This paper reviews finance and stabilization efforts in past conflicts; considers methods of crisis finance under current economic conditions; highlights the problems and possible costs of financing a major war; and reviews government planning for such a crisis.

Findings/Conclusions:

1. Financing a major crisis would be substantially more difficult under current economic conditions.
2. Considerable difference of opinion exists between agencies regarding methods of finance and stabilization.
3. All methods of finance and stabilization would be required to control prices and inflation.
4. Direct controls may be required at the outset to give indirect controls the opportunity to become effective.
5. Interest rates can no longer be controlled as in WW II, but should be monitored and maintained within reasonable limits.
6. Sound economic planning and inter-agency coordination would be essential.
7. Public opinion and policy timing will be critical.

Recommendations:

1. To aid other agencies in planning, the Department of Defense should develop procurement priorities and define its mobilization funding requirements by fiscal year and if possible by quarter.
2. Instead of FEMA, the White House staff/National Security Council should initiate further high level economic planning and coordination. This would better involve the agency principles and the White House where all direction will be initiated in time of war.
3. Standby tax and control legislation should be enacted before a crisis develops.

THIS ABSTRACT IS UNCLASSIFIED

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EXECUTIVE SUMMARY

This study analyzes the impact of a protracted, global war on the U. S. Federal budget and the financial network as well as providing recommended measures which the government could take to lessen the impact.

Historically, the conduct of war has proven to be very costly in terms of men, machines and money; the actual costs have usually been much greater than the nation's decision makers anticipated at the onset of the crisis. This certainly has been the case during our nation's last three major conflicts, World War II, Korea, and Vietnam. The United States has, in the past, chosen to finance war expenditures predominately by borrowing from the public and financial institutions. This policy has the effect of deferring the cost of the war to the future and has contributed in no small part to the existing public debt of over \$1 trillion. A protracted world war, similar in magnitude and length to WW II, could result in defense expenditures in excess of \$3 trillion, three times the current public debt. Defense spending of this magnitude will obviously require extraordinary increases in production throughout the economy, stimulated by thoughtfully conceived policies which do not throw the nation into economic chaos.

This study reviews war financing and economic stabilization measures of WW II, Korea and Vietnam with an eye toward the relevance of past measures in today's environment. The period of greatest interest is WW II. Defense expenditures in support of a future war and attendant Gross National Product (GNP) growth would, more than any other example, probably parallel WW II in terms of expansion rates. Many differences exist, however, between 1941 and the present. The world has shrunk since WW II and nations are now economically interdependent; exports and imports account for a much larger portion of GNP today. Foreign currency exchange rates were fixed in the past; today the rates float in response to market conditions. The character of the U. S. economy has shifted from a predominately industrial base in 1941 to the present day mix of manufacturing and services. Interest rates are much higher today; this has a large impact on capital formation for industrial expansion.

WW II data is analyzed in this study, tempered by today's realities, and used to predict a hypothetical WW III Federal budget. From this a hierarchy of possible financing measures is developed. This hierarchy includes a mix of interest rates considerations, public borrowing, increased taxes, credit controls, wage and price controls, and, as a last resort, rationing.

Conclusions and Recommendations. Pivotal to the success of

government financing and essential to the economic health of the nation during a future war is the development and execution of sound, coherent and coordinated policies under the direction of a single agency. A formal organization presently exists for crisis financing with the Federal Emergency Management Agency (FEMA) tasked to coordinate the activities of numerous departments and agencies. The formal, on-paper, organization appears to be the extent of coordinated planning. Treasury, the Federal Reserve and Department of Defense (DOD), in the face of present day problems, appear to have given scant thought to the problems of financing a world war. The planning that has occurred is far from coordinated. War financing planning and coordination would probably be taken over by the Oval Office should WW III break out. The President's immediate staff or the National Security Council should have responsibility for such planning rather than FEMA.

FEMA, Treasury and the Federal Reserve all indicated considerable interest in planning for a major war but could not because no estimates of costs for such a contingency are forthcoming from DOD. Again, present day problems within DOD have prevented the use of resources for planning for an uncertain, major, protracted war. The conduct of such planning is the necessary first step to sound financing and would provide insight into the economic effects as well as industrial bottlenecks.

In planning for WW III, action would be required to "hold the line" or reduce transfer payments. These payments represent such a large portion of the Federal budget that, when coupled with rapidly increasing defense expenditures, could precipitate inflation of extreme proportions.

Chapter 1

INTRODUCTION

The ordinary expense of the greater part of modern governments in time of peace being equal or nearly equal to their ordinary revenue, when war comes, they are both unwilling and unable to increase their revenue in proportion to the increase of their expense. They are unwilling, for fear of offending the people, who by so great and so sudden an increase of taxes would soon be disgusted with the war; and they are unable, from not well knowing what taxes would be sufficient to produce the revenue wanted. The facility of borrowing delivers them from the embarrassment which this fear and inability would otherwise occasion. By means of borrowing they are enabled, with a very moderate increase in taxes, to raise, from year to year, money sufficient for carrying on the war....

Adam Smith

The Wealth of Nations, 1776

Writing in the year of the birth of our nation, Scottish economist Adam Smith accurately stated what has turned out to be our historic policy for economic mobilization. He went on to condemn what he called perpetual financing --paying only the interest on debts. If inflation had been a known problem, he probably would also have said that, "unless crisis financing is done correctly, it is highly inflationary, and can disrupt a national economy for an extended period." World War I (WW I),

with extensive borrowing and limited (late) controls, caused a 50% increase in the cost of living in the United States. In WW II we did slightly better; a higher percentage of expenses were financed by taxation, and with implementation of direct controls, consumer prices rose only 29% in the longer period from 1939 to 1945. WW II cost America over \$300 billion and in 1943 and 1944 consumed over 91% of the federal budget.¹ Today, full mobilization of the economy for a protracted multi-theater war would cost several trillion dollars! How could such a staggering amount of resources be diverted from an economy that is struggling to meet growing social demands while only maintaining a peacetime force?

Resources are finite; consequently, the answer lies in maximization of production through full employment and by diversion of labor and capital from non-essential portions of the civilian sector. Only through growth in national income and capital formation could such enormous expenditures be maintained. Full mobilization would require massive capital investment by the government and corresponding real growth in the private sector. However, without planning, required growth in government spending of over a hundred percent within two or three years would result in total fiscal disequilibrium. Even with a

1. The statistics used throughout this report were taken from the "Statistical Abstract of the United States," and the "Economic Report of the President," portions of which are reproduced as Appendix A.

planned program of balanced revenue measures and stabilization efforts, crisis finance may be extremely difficult in the fiscal climate of the 1980's.

As Adam Smith forecast, in past wars, our government has historically chosen to borrow a large percentage of its war expenditures, transferring the financial burden to the investment sector rather than to wage earners directly. In World War II borrowing worked quite well because interest rates were able to be held at about one percent, and only limited competition existed for investment funds. Present day conditions are different, with a trillion dollar debt and budget deficits which already consume much of the nation's investment capital. Consequently, demands for large amounts of additional capital could force interest rates up rapidly, bankrupting thrift institutions, defense sub-contractors, and possibly many of the developing nations.

For purposes of this paper we define a military crisis as a multi-theater conventional war of extended duration, requiring full mobilization. Some limited warning (up to six months) would probably precede the crisis. Although we have not postulated any physical damage to the U.S. infrastructure -- which would make the problem even more difficult -- we could expect large losses in personnel, equipment, and shipping. Due to the cost and complexity of modern weapons systems, it is difficult to envision building the quantities of equipment constructed in WW II, but

even an equivalent amount of firepower in modern weapons would be extremely costly. The exact scenario of the crisis is not germane; any crisis that requires doubling the Defense budget within one year would have a major impact on the financial system.

The questions remain. How do we finance a major military crisis in the 1980's? Will past revenue policies work or will we see total budget disequilibrium with simultaneous high interest rates and hyperinflation? What would be the impact of a military crisis upon federal finance and the U.S. financial network?

In this paper we review finance and stabilization efforts during the last three wars; consider methods of crisis finance in light of today's economic conditions; highlight some of the problems of crisis finance; and review government planning for such a crisis. This paper is not intended to provide the final answers to these complex questions, but to stimulate thought and planning to maximize the effectiveness of our nation's greatest weapon -- our economy.

Chapter 2

ECONOMICS AND DEFENSE

Before reviewing crisis finance in previous conflicts, a brief discussion of federal finance and stabilization is in order.

2.1 Federal Spending and Finance

With the geometric growth in the federal debt, many private citizens as well as federal government agencies are becoming increasingly alarmed by the current economic conditions and the prospects for future growth and prosperity. Proposed solutions, which are sometimes easily envisioned but difficult to implement, include a reduction in federal spending with a concurrent increase in federal taxes.

In time of war, the concerns are much the same regarding the size of the public debt. However, the solutions are not so obvious. A clear distinction is that a major mobilization will require more, not less, government spending. A primary method to finance increased defense expenditures is by way of tax

revenues. Taxation serves several purposes. Harris indicates that the obvious purpose is to pay the bills.² Taxes, if imposed equitably on all classes of people and businesses, will spread the burden among the current generation which, assuming a "popular war," should be willing to pay its fair share. Heavy taxes also act to stabilize inflation by reducing consumer demand. Funds available for private spending are reduced. Consequently, buying and prices are also kept down.

Taxes can be levied in various ways: on commodities (excise, sales, and stamp taxes), on corporate profits, and on personal income. Personal income taxes account for the largest portion of tax revenues.

While some economists would argue that taxes could and should be the sole source of support for a fully mobilized war effort, historically it has proven impractical and infeasible to implement such a heavy tax burden. During WW II for example, taxes accounted only for approximately 40% of the total war outlays. The reasons for this are numerous: First, heavy taxes are politically unpopular, and may be a disincentive if applied incorrectly or at the wrong time. Before economic growth (which normally accompanies mobilization) begins, increased taxes would eat into current spending and effect standards of living. But,

2. Seymour E. Harris, The Economics of Mobilization and Inflation. (New York: W.W Norton, 1951), p. 128.

in an expanding economy, people are less affected since taxes are applied to additional income. Second, the American political process is often slow and cumbersome. Any meaningful tax program could be long in coming. Long delays would inhibit the mobilization effort. Lastly, if corporate taxes are too severe, business will have little or no incentive to produce more goods; and the economy will not continue to grow. Clearly the tax system should be vigorous enough to defray a large measure of the costs of going to war, and to help stabilize the economy while still providing enough incentive to corporate enterprises to insure expansion of the economy.

In satisfying these criteria any tax program will come up short. Therefore, when outlays exceed government income, the alternative is to borrow. Federal deficit spending has numerous implications for the economy, depending upon the method of borrowing employed. Funds may be obtained by borrowing from the non-bank public, by borrowing from the commercial banking system, or by borrowing from the Federal Reserve System. The Treasury can also "print money," however, this is an alternative which is visibly inflationary and politically infeasible as well as unnecessary, since borrowing from the Federal Reserve has the same effect. But, since the latter is more complicated and less understood by the public, the process is less criticized. The least inflationary process is borrowing from the nonbank public. But this method is not without problems since interest rates must

be sufficiently high to entice the public to buy bonds rather than spend money on available goods. Borrowing from commercial banks lies somewhere between the two extremes. The choices are varied and difficult and cannot be predicted in advance of a major crisis. The choice or combination of choices must be fully integrated with coordinated monetary and fiscal policies.

2.2 Economic Stabilization

In time of national emergency, the federal government is generally called to realign national priorities. At the same time, it must be responsible to assist in the regulation of economic activity to create an environment for economic growth and to increase the overall standard of living. Within these broad guidelines, a primary goal is to utilize various stabilization measures to insure wage and price stability and to guard against an unnecessarily high rate of inflation which is so often the result of a major mobilization effort.

The government has at its disposal two broad categories of stabilization controls: indirect and direct. Indirect controls include various monetary and fiscal policies. Fiscal policies not only produce revenues and finance a crisis, but also they may serve as a stabilizing mechanism by lowering spendable income and reducing aggregate demand in the private sector. Policies which

allow for deficit spending, on the other hand, put more money into the economy and significantly add to aggregate demand. Fiscal policy can be extremely effective, yet it cannot be relied upon exclusively because of implementation lags and because it can discourage the incentive to produce if taxes become excessively harsh.

Monetary policy, which is administered by the Federal Reserve System, regulates the money supply and the cost of credit. Monetary policy is often preferred, but it is limited in its extent of control because it relies on the free market, utilizing the interaction of supply and demand.

The Federal Reserve can regulate the money supply by several methods. It can regulate the amount of reserves that banks are required to maintain. It can change the discount rates (interest) it charges on reserves that it loans to commercial banks or, most importantly, the Federal Reserve can buy and sell government securities in Open Market Operations.

Of the three options, changing bank reserve requirements is perhaps the most powerful, but it is seldom used because it is so powerful. Changes in the money supply and the magnitude of the change are difficult to control or fine tune.

Discounting is the oldest option available to the Fed and, although it is used often, it is usually used in conjunction with other policies. It is normally used only to replace deficient

bank reserves and not as a mechanism to create or deplete excess reserves. Discounting is, therefore, a secondary method of affecting the money supply. The initiative lies with the member bank and not with the Federal Reserve which cannot force a member bank to borrow if it chooses not to.

Open Market Operations are the most commonly used of the Federal Reserve's monetary tools. By buying or selling securities the Board can directly expand or contract the money supply. The initiative is theirs and they can affect the money supply in small or large doses as they see fit for purposes of controlling interest rates and/or the rate of inflation.

Monetary policy is preferred by some economists because it does not interfere with normal market forces. However, like fiscal policy, there are delays between recognition of a particular problem and the effect of the corrective action. By the time it is implemented it may lag behind the economy and, in effect, be destabilizing because the policy is out of phase with actual conditions.

Although very effective in peacetime, monetary policy by itself has little effect on inflation during a major mobilization unless money is so tight that total economic output is severely reduced. For that reason fiscal and monetary policy is normally combined with various types of direct controls.

Direct measures include federally imposed ceilings on wages,

prices, and rents; rationing of consumer goods; allocations of raw materials; and mandatory settlement of labor disputes. These measures are drastic, effective, and called on only when normal markets cease to function in the face of uncertainty during a national crisis. Direct measures are often thought of as "tools of last resort" and are employed for a short duration to achieve a desired effect. They are extremely difficult to administer equitably. Extensive manpower is required and the administrative costs are high. Additionally, over time compliance erodes and enforcement costs rise progressively. Selective credit controls occupy another separate but related category. Although direct in their application, they are usually considered to be an adjunct to monetary policy. Credit controls, however, are no longer the exclusive domain of the Federal Reserve. In any event, their use during war-time has assisted in the reallocation of resources away from the private sector so they could be used in the defense effort. Recent experience indicates credit controls can have a powerful braking effect on the current economy.

In attempting to stabilize the economy in war-time, history has shown that while direct or indirect measures both tend toward the same result, neither type of measure is totally effective by itself.

Each national emergency was unique in that it required a different set of tools to solve a different array of problems. In general, however, it is interesting to note that the measures

employees lie along a continuum from the least severe monetary policy to the most drastic and precipitous direct wage and price controls. The difficulty is in determining what economic conditions require what combination of tools along that continuum, and when and how long they should be implemented.

Chapter 3

MOBILIZATION IN PAST CONFLICTS

3.1 Prewar Policy 1937-1939

Before discussing economic mobilization in World War Two (WW II), it is important to understand existing policies and conditions prior to Pearl Harbor. As early as 1937 the Federal Reserve began to take direct action to maintain a stable market in government securities. By buying or selling relatively large blocks they were able to stabilize the yields on both long and short term government securities, and to some extent, high grade corporate bonds. After the start of the war in 1939, the Federal Reserve also initiated a policy of par value loans on government securities to both member and nonmember banks at a preferential rate of 1%.

On the day after Pearl Harbor the Board of Governors assured the country that they could and would supply the Treasury with all the money it needed:

The existing supply of funds and bank reserves is fully adequate to meet all present and prospective needs of the government and of private activity. The

Federal Reserve System has powers to add to these resources to whatever extent may be required in the future. The System is prepared to use its powers to assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government security market that are satisfactory from the standpoint of the Governments requirements.

3

3.2 World War II

In April 1942 the Federal Reserve banks began a policy of purchasing at a 0.38% discount rate, all of the Treasury bills offered to them. By August 1942 they also offered sellers the option to buy back equal quantities at the same rate. This effectively froze the yield on Treasury bills at 0.38% and made them nearly as liquid as cash. Similar action was also taken for longer term government securities, but the slightly higher rates were not as precisely fixed. Chandler called such a policy a "low-yield government security standard," and felt that the Federal Reserve not only lost control over the money supply but also over the types and maturities of its government holdings.

3. Board of Governors, Annual Report, (Washington: 1941), p. 1.

4. Lester V. Chandler, Inflation in the United States, 1940-1949, (New York: Harper, 1951) p. 191-192.

It is important to note that the nation had not yet fully recovered from the depression by 1939. The GNP was \$90.9 billion, still only 38 % of the 1929 GNP. More than 9 million Americans remained unemployed. Finally, due to increases in defense spending, and the start of the lend lease program the economy started to grow. Federal expenditures grew from \$8.9 billion in 1939 to a maximum of \$35.5 billion in 1944. This huge growth in government spending was of course the largest contributor to the growth in the economy and to inflationary pressure. Per capita income grew from \$515 in 1939 to \$1215 in 1945. In the same period, personal consumption nearly doubled. The shortage of durable goods caused personal savings to increase from \$2.2 billion to a high of \$36.6 billion in 1944.

It is interesting to note that due to the Federal Reserve's policy, interest rates remained constant at a prime rate of 1.5% throughout this entire 1939-1945 period. But, by 1941 once industry started to approach capacity and unemployment had dropped, inflation started growing, reaching 10.6% in 1942.

3.3 Economic Stabilization

Ten days after Pearl Harbor, the President brought labor and management together to form a no-strike, no-lockout agreement which would last throughout the war. To implement this

understanding. Executive Order 9017 established the National War Labor Board (NWLB). The board was given authority over wage issues under its jurisdiction, but no specific mention was made of wage control or stabilization.

After an initial delay, and considerable political haggling, a price control bill was passed in January 1942. This bill, the Emergency Price Control Act of 1942 authorized the establishment of "generally fair and equitable" price ceilings based upon existing prices in October 1941. Unfortunately wages were not included and farm price ceilings at a 110% of parity were to prove ineffective.

In April 1942, in an effort to increase controls, the President sent a "seven point anti-inflation" message to Congress. It called for: 1. heavier taxation, both personal and corporate; 2. an overall ceiling on prices and rents; 3. wage stabilization; 4. stabilization of farm prices, and restoration of parity instead of 110% of parity as the ceiling; 5. an expanded war savings program; 6. rationing of essential commodities; and 7. discouragement of credit and installment buying and encouragement of debt retirement. Of these only farm price ceilings and tax policies required congressional action.

To implement the price ceiling, the Office of Price Administration (OPA) issued the General Maximum Price Regulation and a series of rent control orders by area. The "General Max"

applied to goods (and services connected to commodities) at all levels unless covered by separate regulation or specifically exempted. Prices were frozen at the highest levels for similar or identical goods as of March 1942. Again there were important exemptions, mainly salaries, wages and natural farm products. "General Max," was followed by numerous other individual regulations which put most commodity and consumer service fields under controls.

However, without a real freeze on wages and without control of food and farm prices the freeze was not effective in stopping inflation. There was continued pressure for wage increases and in July 1942, the NLRB issued a decision allowing wages to increase 15% to match cost of living increases which had occurred since January 1941.

There was considerable effort at cross purposes among the various agencies. For example, the NLRB was interested in providing an adequate supply of labor to the defense industry, regardless of cost; while OPA was trying to control production costs and consumer prices. OPA was forced to jump from crisis to crisis and it became obvious that additional action was required. In September 1942 the President requested authority to stabilize the cost of living including the price of all farm commodities. Congress responded a month later with the Stabilization Act of 1942. This act directed the President to issue a general order stabilizing prices, wages, and salaries

affecting the cost of living at the level of 15 September 1942, as far as practicable. The NWLB was given authority over wage rates, and authorization was finally granted to control agricultural prices at parity.

The President immediately created the Office of Economic Stabilization (OES). The OES was tasked to develop a comprehensive national economic policy relating to the control of civilian purchasing power, prices, rents, wages, salaries, profits, rationing, subsidies and all related matters. In order to carry out his tasks, the Director of Economic Stabilization was granted authority to issue policy directives to federal departments and agencies. Even this act did not halt the inflationary spiral, and in April 1943 the President issued a "Hold the Line" order directing all stabilization agencies to take action to establish more definite policies and better coordination of wage and price controls. In May 1943 the Office of War Mobilization was established to provide top level coordination for all economic mobilization efforts. Finally, nearly a year and a half after Pearl Harbor the administrative apparatus, the political will, and the controls were in place to hold the line on inflation.

Unfortunately, when the war ended, controls were viewed as part of the war effort and were removed too quickly, long before the economy was capable of meeting the pent up demand for consumer goods. This resulted in another inflationary cycle

worse than that experienced during the war.

3.4 Korea

"The Korean Conflict was the last of the long line of America's wars to prove an unquestionable plus for the economy. But it was also the first of America's wars not needed as an excuse for economic management." ⁵ Unlike WW II, the Korean War began at a time when the government was trying to achieve full employment (the unemployment rate was 5.4%) and the economy was operating at 80% capacity. Although it was only a limited local war on a single front, it was nevertheless a full scale economic war in which the full economic strength of the Nation was brought to bear. Initially, the production capacity of war materials far outstripped demand. Inflation was quickly out of control as there was no precipitous calamity like Pearl Harbor to force the country into immediate wartime controls.

There was strong resolve to show that the American economy could simultaneously support the high standard of living that was achieved in the wake of WW II and the high costs of the Korean War. Prior to the outbreak of hostilities the defense budget stood at \$14 billion and it was being threatened with a reduction

5. Eliot Janeway, The Economics of Crisis: War, Politics, and the Dollar. (New York: Weybright and Talley, 1968), p. 221

of \$2 billion. In September 1950, the President asked Congress for a \$17 billion supplemental and followed it with another request for \$19 billion in November. Between 1950 and 1953 the consumer price index (CPI) rose 12%, with over a 6% rise in the first year of the war. Also, in that same year, wholesale prices rose by 10 %.

The Defense Support Program, which was designed to broaden the base of the economy to support guns and butter, created a backlash which added to inflation. The psychological impact of controls increased the demands for more money, men, and goods, which in turn required the implementation of more controls. The incentive was to expand first without really worrying about the actual demand. The amount of money in circulation increased similar to that during WW II. The excess liquidity enabled some people to buy and hoard many goods as a reaction to each new war scare.

The effects of inflation in the U.S. were felt world wide. The U.S. favorable balance of trade enabled an almost unlimited purchase of necessary goods from foreign markets at almost any price.

Initially the position of the Federal Reserve was, as in WW II, to be the financial agent of the Treasury. Early on, only indirect controls were tried. Selective credit controls imposed

by the Federal Reserve on consumer credit, were ineffective. The Federal Reserve abandoned its traditional wartime role and, with the Fed-Treasury Accord of March 1951, established some independence in its efforts to combat inflation. The imposition of direct controls was delayed several months by numerous bureaucratic debates discussing the relative merits of various controls. Similar lengthy debates between Congress and the Administration resulted in raising only half of what the President desired in taxes for revenues and control of inflation. However, eventually all forms of emergency control were utilized; including price and wage controls; a Controlled Materials Plan which limited industry to specific quantities of steel, aluminum, and copper; accelerated taxes; and excess profits tax; success was not achieved without some problems and lessons for the future.

The indirect and credit controls took too long to work and were easily circumvented by the public who went on buying sprees and hoarded excess goods. Low interest rates were a disincentive to save and the large savings were quickly spent. Buying was not related to government demand for weapons systems. The initial surge of inflation occurred without any large increase in production. And as the market place began to return to normal temporary direct controls were a necessary assist to allow indirect controls to take effect. However, by the time the

6. Albert G. Hart, Defense and the Dollar. (New York: Twentieth Century Fund, 1953), p. 33

direct controls had been imposed, the wage-price spiral of inflation was already well underway.

The end result was not all negative. During both WW II, with a slack economy, and Korea, where the economy was operating at a peak and the production of war materials was at the expense of civilian goods, a mixed system of monetary and fiscal controls was able to stem the rising tide of inflation. The economy remained vital and healthy. But the problems which remained unresolved were those of timing of the various controls, planning and coordination by the various agencies, and the delays caused by the reluctance of Congress and the Administration to take necessary action in advance before inflation was out of control. Over a decade later many of these problems were still unresolved and were further exacerbated when the U.S. had to cope with another limited war which was competing for resources not only with the demands of a civilian market but with a President's strong desire to build a "Great Society."

3.5 Vietnam

The Vietnam war experience was unique. Not only was the country divided in its support of the U.S. commitment, but also the ambivalence was reflected in public policy that was administered by the federal government. President Johnson set

the country on a course which was doomed to failure from the start. He

".... but that guns could coexist not only with butter, but also with freedom from controls, with progress in the war against poverty, and with the enjoyment of stability."

7

In the aftermath of the Korean War the combat readiness of the United States had significantly deteriorated. Concurrently there was a similar reduction in the country's economic and financial strength. The five years immediately preceding the Vietnam escalation were barely enough to allow the U.S. to catch up and be able to fight a war which consumed much of the decade of the 1960's.

The Vietnam War did not cause anywhere near the economic impact and disruption that occurred during the Korean Conflict, and certainly less than that of WW II. Unlike WW II and Korea, Vietnam followed on the heels of a period of high productivity and prosperity. The economic and financial policies that were followed during Vietnam, however, resulted in significant changes to the U.S. economy and they were felt long after the last shot was fired. Many believe that some of today's problems of inflation and recession are attributable to the Vietnam era.

7. Janeway, The Economics of Crisis: War, Politics, and the Dollar. p. 285

The Vietnam war was fought in isolation. The war planners separated themselves from the rest of the American political economy and ignored the ties with the rest of the world. The outcome of the divisiveness among the actors and the failure to develop an overall plan for financing the war and maintaining stability was inevitable. Although the costs of the war were considerably less than either WW II or Korea in terms of percent of GNP (WW II: 41.5%, Korea: 13.3% and Vietnam: 9%), the American economy still struggled under the burden of the buildup. For the first time the economy was cramped by the increased defense expenditures instead of expanding.

The way to and through Vietnam was paved with many similar mistakes which had occurred in the past. From the outset, Secretary of Defense McNamara underestimated the extent of the U.S. involvement. This uncertainty and the lack of national will forestalled many decisions which should have been made. Additionally, President Johnson's desires for a "Great Society" diverted his attention from other equally important issues. He felt strongly about not letting the war interfere with his plans.

Stabilization efforts were applied piece-meal -- more often too little too late. Consequently, the wage-price spiral was quickly out of control. The economy was already at or near full employment. Government spending was high because of the demands of Great Society programs, and consumer spending had been spurred

on by the 1964 tax cut. The rapid increase in aggregate demand, without adequate fiscal and monetary restraints, caused an equally rapid rise in prices at the beginning of the buildup in 1965 and 1966. The initial reluctance of the administration to increase taxes or reduce federal spending shifted the burden to monetary policies. Credit was tightened when the Federal Reserve raised the discount rate from 4 to 4.5%. By the time Johnson retreated from his position and Congress approved a 10 percent tax surcharge and a \$6 billion reduction in spending, it was too late to have significant impact.

The administration relied on the free-market financing and there were no provisions to protect the large outflow of U.S. dollars to foreign markets. With a high rate of domestic inflation, the foreign markets were especially attractive and caused an additional strain on the U.S. economy.

In 1969 President Nixon initiated his program of "gradualism" to attempt to reduce inflation by reducing growth. More attention was applied to coordination of restrictive fiscal and monetary policies. The rate of growth was lessened, but the rate of inflation continued undiminished in the face of the continual strong demand pull. Congress enacted the Economic Stabilization Act of 1970 in spite of Nixon's opposition to any income policy or direct controls. Within a year, however, the administration was forced to change its mind because of the demands of foreign economic policy. The U.S. balance-of-payments

account had deteriorated and inflation was pricing U.S. goods out of the foreign markets. The dollar occupied a tenuous position in the international money markets.

Accordingly, Nixon introduced his phased program of wage and price controls in August 1971. However, the programs were not rigidly or equitably enforced since only 4,000 administrators were employed compared to over 60,000 during WW II. More stringent controls were implemented in 1972 but mandatory wage and price controls were terminated altogether in early 1973. With only monetary and fiscal controls remaining, the inflationary pressures continued. Nixon again ordered a 60 day freeze of all prices in mid-1973. With the expiration of the Economic Stabilization Act in the Spring of 1974, the final phase ended without having really achieved its objective. A period of "stagflation" then ensued - a combination of inflation and a stagnant economy.

The failure to keep inflation under control was due to many causes. Some that have been identified include:

1. The inconsistencies in the administration's commitment to a controls program.
2. The uncertainty in the application of programs - on again, off again.
3. The inability to make changes and adjustments even though the nature of the economy was changing drastically between 1971 and 1973.

8. Harold J. Clem, et al., Economic Stabilization, (Washington D.C. : National Defense University, 1978), p. 110.

4. The inability to adjust policies for individual industries under the guise of consistency.

5. The failure of the administration to integrate the controls into an overall program which would support economic growth and adjust to the change in the availability of resources.

The stagflation of the Vietnam era combined with the 1973 OPEC oil price increase resulted in economic conditions which had not been equaled since WW II. A pattern had been established which would have far reaching impact on the peacetime economy for the next decade. More importantly, even though Vietnam exacted less costs than WW II or Korea, the outcome of the impact on the economy has major implications for future planning for the next probable conflict. If Vietnam, which was the least costly of the three wars, was difficult to support and resulted in national and international economic turmoil and a major recession, what will be the result if the U.S. must again enter into a war the size of WW II? Furthermore, with the large increases in the national debt, continued high unemployment, and the steady growth in transfer payments that are essentially untouchable, will the federal government be able to exercise any control at all even with all the tools of fiscal and monetary policy at its disposal?

Chapter 4

ECONOMIC MOBILIZATION IN THE 1980'S

4.1 Competing Resource Requirements

While similarities exist between now (1983) and the late 1930's, e.g. high unemployment, and low industrial capacity utilization; many key factors have changed in the financial sector. Economically, the world is much smaller and more interdependent; the U.S. no longer occupies a position of total dominance or isolation. Let's look at some of those changes.

4.2 Debt.

First, the 1.15 trillion dollar national debt and its resultant debt service are often cited as cause for concern. Actually, the debt is smaller now in relation to the gross national product than it was in 1939 (37% vice 44% of GNP) and much smaller than 1946 (128% of GNP). However, due to higher interest rates, debt service now consumes nearly 12% of the federal budget and 2.8% of

the GNP. Contrast that with 1946 when debt service only required 2.3% of the GNP. Projected budget deficits totalling over \$500 billion in fiscal years 1983 through 1986 will greatly increase debt service and more importantly, increase government competition for investment capital. The effect of this projected succession of large budget deficits on top of the existing debt is likely to increase interest rates and substantially reduce the rate of capital formation. The seriousness of this situation should not be overlooked. Over the past 20 years the net savings of U.S. households and businesses have averaged approximately 7% of the GNP. Current projected deficits of over 6% of GNP will leave little capital for real growth, further reducing the mobilization base.

4.3 Floating Exchange Rates.

Since 1973, currency exchange-rates have been allowed to float rather than being tied to the gold standard. The effect floating exchange-rates might have on crisis finance varies from positive --a strong dollar would reduce needed import costs; to extremely negative--collapse of the dollar due to fear for the survival of the U.S. government. Historically, the former has happened, investors have moved their money to the U.S in times of crisis, strengthening the dollar. What would actually happen depends primarily upon the perceived outcome of the crisis.

4.4 Transfer Payments.

In 1939 the nation was still coming out of the depression, and transfer payments represented 36% of the federal expenditures and 3.5% of the GNP. In 1982, after a relatively prosperous decade, transfer payments were 52.1% of federal expenditures and 12.4% of the GNP. While this indicates a concern for the welfare of the poor and the old, it also represents a growing and largely untouchable percentage of the budget which is no longer available for mobilization. Additionally these social insurance programs tend to add rigidity to wages, prices, and even structural unemployment.

4.5 Trade.

Another significant consideration is international trade. Exports and imports now comprise a significant portion of our GNP, totaling 22% in 1982. The primary reasons for this growth are a reduction in trade barriers, and transportation/communication economies. Most major corporations, including banks, are now international in scope and depend heavily on foreign trade for much of their growth and a large percentage of their profits. While expanded trade increases

competition and allows national specialization in areas of comparative advantage, it also tends to eliminate firms in the less productive sectors. This has happened in several key U.S. industries, such as steel and shipbuilding. The effects increased dependence on trade would have on financial mobilization are difficult to predict. However the effects on domestic production are staggering. In many cases essential goods are no longer produced in the United States.

4.6 World Debt.

Along with the increase in world trade, has come another very significant change in the financial sector: international debt. Throughout much of the 1970's, developing nations were able to maintain high growth rates by borrowing. Rapid growth made loan risks appear low and with interest rates at or below U.S. inflation rates, real interest was negative. Unfortunately, the recession of the early 1980's drastically reduced the demand for basic commodities and prices fell as much as 25%. Simultaneously, high interest rates in the U.S. drove up the price of the dollar while driving down inflation. The result for nations like Mexico was a large amount of short term debt at real interest rates of 9 to 10%, to be paid back with dollars that cost twice as many pesos. The banking crisis of 1982 gives some idea of the problems that would occur if borrowing to finance a

military crisis were to drive interest rates up rapidly to greater than 20%, a very real possibility.

4.7 Investor Attitude.

As noted earlier, at the start of WW II the nation was still recovering from the depression. Many people viewed the economic benefits of mobilization as only a temporary lull in the depression. Interest rates were constant at about 1.5%, consequently the Federal Reserve was able to finance the war at a low cost by holding interest rates on government securities at about 1%. Contrast that with the much more sophisticated investor of today, with hundreds of investment opportunities and billions of dollars in extremely liquid accounts such as money market funds.

Additionally, taxpayer attitudes have changed; after Vietnam and proposition 13, it is hard to envision a rush to buy savings bonds instead of scarce consumer goods.

Chapter 5

FINANCING WAR IN THE 1980's

5.1 Basic Assumptions

In order to address possible financing methods for WW III, an attempt should be made to define the magnitude of the problem. Liaison with numerous components of DOD has revealed that no estimates presently exist for the cost of a protracted world war. Results from Exercise Proud Saber indicate an increase of \$233 billion for the FY83 defense budget but this value was derived in a hasty manner with no planning for costs beyond FY83. The following budget scenario is a simplistic and intuitive approach to the definition of the budget associated with a world war in the 1980's.

While World War III would certainly not unfold and develop as did World War II, the scope and magnitude of financing WW III would probably parallel WW II more closely than any other conflict in our nation's history. Many would be quick to point out that weapons systems are much more costly today than 40 years ago, that development and production lead times are much longer

today, that many war material production facilities do not exist and that many resource bottlenecks do exist. All of this is true. It is also true that the same conditions existed prior to WW II; in many respects even more so. While the complexity and sophistication of weapons systems, with attendant production difficulties, have increased, so have the power of the technological and managerial tools available today to cope with increasing production in a crisis. Discussion of planning and coordination necessary to increase production to the levels indicated in the scenario below would fill volumes and are far beyond the scope of this paper. This is not to blithely dismiss the herculean effort required to increase defense production as was done during WW II but, rather, to state that if it was possible then, it is probably possible now.

The following projections are based upon several assumptions, to be discussed in turn, which utilize expansion factors similar to WW II tempered by today's realities. WW II data, taken from Appendix A, is in "then year" dollars unless otherwise indicated. Projections of WW III dollars herein take inflation into account by using the inflationary nature of "then year" WW II dollars to produce an implicit inflation in the calculations. The scenario will result in a hypothetical table of Gross National Product (GNP), Federal Expenditures, Federal Receipts, deficit and National Debt for the period 1983 to 1986, the years of the imaginary WW III. Data for 1983 will consist of

1982 data adjusted for a projected 2% growth in GNP. WW II years selected for comparison are 1941 through 1944, from the start of the war through peak expansion. For the purposes of this paper, Federal Expenditures are divided into four major categories; defense, transfer payments, other (all other government functions) and national debt service.

5.2 Gross National Product.

Increasing production to support the demands of world war requires extraordinary increases in GNP. Our nation, in 1941, had a 9.9% unemployment rate, down considerably from the 17% unemployment rate that existed in 1939. This large decrease was largely attributable to Lend-Lease and other war preparation measures. Approximately 76% of the nation's industrial capacity was in use in 1941, a percentage rate not too far afield from the approximately 65% industrial capacity utilization rate existing today. On the basis of existing unused capacity and unemployment, the U.S. economy, with proper stimulus, has the potential of expanding at rates similar to WW II. Comparable expansion, interpolated for the 1980's, would yield the following:

Table 1
WW II GNP, Predicted WW III GNP

	1941	1942	1943	1944
GNP (billions)	125.0	158.5	192.1	210.3

% Increase over 1941	---	126.8%	153.6%	168.4%
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	1983	1984	1985	1986
GNP	3118.1	3953.8	4789.4	5250.8

5.3 Manpower and Unemployment.

Manpower and unemployment is addressed next in sequence in that it bears directly on the estimates of defense spending and transfer payments. The labor force expanded rapidly during WW II for several reasons:

- The unemployed found work easily as the nation geared up for war.
- Many women entered the work force. Women, over 14 years old and over, comprised 25% of the civilian work force in 1941. The same category of people comprised 34% of the civilian labor force in 1944. It should be noted that women, 16 years old and over, represented 43% of the civilian work force in 1982. There were, however, 6.2 million men and 4.5 million women "actively unemployed" in 1982, a significant manpower pool.
- Many retired people re-joined the work force during WW II for patriotic and monetary reasons. The same phenomenon

would probably occur today. This is a key point; transfer payments declined during WW II partly for this reason. A rapidly expanding economy with even a relatively small percentage (15% or so) of social security recipients returning to work would have a dramatic impact on transfer payments.

With the above in mind, the following is the WW II labor force distribution:

Table 2				
U. S. WW II Labor Force				
	1941	1942	1943	1944
(millions)				
Civilian Labor Force	55.9	56.4	55.4	54.6
Active Armed Forces	1.6	3.9	9.0	11.4
Unemployed	5.5	2.6	1.1	0.7
Total Force	63.0	63.0	65.5	66.7
Unemployment Rate	9.9%	4.7%	1.9%	1.2%

Active military personnel in 1939 numbered only 0.3 million. The rise to 1.6 in 1941 reflects the rapid expansion of the military prior to Pearl Harbor. Pay rates during WW II were comparably smaller than today; military pay represented only 32% of the 1941 defense budget as opposed to 54% today. Active military forces expanded to a peak of 11.7 million in 1945. WW III of three or four years duration could require a peak of 12

million men in uniform (perhaps even more). Should WW III start today, 2.1 million men are already in uniform, a greater starting point than WW II. The average cost of a man in uniform in 1941 was \$8560, the average cost throughout WW II was \$9400 (defense expenditures divided by number of active military personnel). The similar cost today is \$96900 and forms the basis of estimated defense expenditures for WW III in table 5 - 4. Another element of the prediction below is the structural resistance of unemployment going below 3% in today's environment. Should the unemployment rate go below 3% during the hypothesized war, then the WW III manpower estimates below are conservative.

Table 3
Predicted U. S. WW III Labor Force

	1983	1984	1985	1986
(millions)				
Civilian Labor Force	110.2	112.1	110.1	110.1
Active Armed Forces	2.1	5.1	11.6	12.0
Unemployed	10.7	5.8	3.9	3.4
Total Labor Force	123.0	123.0	125.6	126.0
Unemployment Rate	10.8%	5.2%	3.5%	3.0%

3.4 Defense.

Given the above GNP growth and manpower distribution depicted in

Tables 5 - 1 and 5 - 3, the following is a comparison of WW II data and WW III projections:

Table 4
WWII Defense Expenditures.
Predicted WW III Defense Expenditures

	1941	1942	1943	1944
Defense (billions)	13.7	49.3	79.7	87.4
%Federal Expenditures	66.8%	87.9%	92.9%	91.5%
%GNP	11.3%	31.1%	41.5%	41.5%
	1983	1984	1985	1986
Defense (billions)	197	510	1144	1257
%Federal Expenditures	26.3%	53.9%	73.5%	70.7%
%GNP	6.3%	12.8%	23.8%	23.9%

5.5 Other Expenditures.

Other government expenditures represented 15.6% of Federal Expenditures and 2.6% of GNP in 1941. This category of spending rapidly declined during WW II. It is not unreasonable to expect other expenditures to likewise diminish during WW III. Therefore:

Table 5
Other U. S. Government Functions
Expenditures for WW II, Predicted
for WW III

	1941	1942	1943	1944
Other Expenditures (billions)	3.2	2.6	1.6	2.0
%Federal Expenditures	15.6%	4.6%	1.9%	2.1%
%GNP	2.6%	1.6%	0.8%	0.9%
	1983	1984	1985	1986
Other	77.9	63.2	47.9	52.5
%Federal Expenditures	10.4%	6.7%	3.1%	2.9%
%GNP	2.5%	1.6%	1.0%	1.0%

5.6 Transfer Payments.

This category of spending accounted for 12.2% of the Federal budget and 2.0% of GNP in 1941. This contrasts sharply with 52.1% of the Federal budget and 12.4% of GNP in 1982. Transfer payments fell 24% from 1940 to 1941 as a result of a 32% reduction in unemployment (from 14.1% to 9.9%). Transfer payments remained essentially constant in current dollars during the period 1941 - 1943 and then rose in 1944 as veteran's benefits began to increase for returning war casualties.

Current Department of Treasury estimates are that a 1% reduction in unemployment translates to a \$25 billion reduction in budget deficit as tax revenues increase and transfer payments

decrease. If a reduction of 1% in unemployment equates to a \$12 billion reduction in transfer payments and this is applied in conjunction with projected unemployment rates as well as the return of retired people to the work force, a prediction of transfer payments would be thus:

Table 6				
WW II Transfer Payments, Predicted WW III Transfer Payments				
	1941	1942	1943	1944
Transfer Payments (billions)	2.5	2.9	2.7	3.5
%Federal Expenditures	12.2%	5.2%	3.1%	3.7%
%GNP	2.0%	1.8%	1.4%	1.7%
	1983	1984	1985	1986
Transfer Payments	386.6	261.6	220.6	285.9
%Federal Expenditures	51.6%	27.7%	14.2%	16.1%
%GNP	12.4%	6.6%	4.6%	5.4%

5.7 Debt Service.

Even within this simple analysis debt service is most difficult to predict. It is a function of total Federal expenditures, Federal receipts, the size of the national debt and prevailing interest rates (which are a function of Federal Reserve policy

and a host of market variables). The national debt represented 39.1% of GNP in 1941. It represented 37.3% of GNP in 1982, hence the debt is slightly lower relative to GNP now than at the start of WW II. There are several significant differences between 1941 and 1982 however. Specifically, 76.9% of the debt in 1941 was privately held; non-inflationary borrowing. This percentage contrasts with 59.3% of the debt privately held in 1982. Of more significance, the Federal Reserve Discount Rate was held at a steady 1% during WW II, a far cry from the 11% rate existing today. These vastly different discount rates account, in large part, for the differences between the portion of Federal expenditures required to service the debt during WW II and today. In 1941, debt service accounted for 5.4% of Federal expenditures and 0.9% of GNP. While dollars of the day expenditures for debt service rose 236% during the period 1941 - 1944, as a percentage of Federal expenditures it declined 50% and as a percentage of GNP, it rose only 33% (contrasted with a the 366% increase in total Federal expenditures). Debt service in 1982 accounted for 11.6% of Federal expenditures and 2.8% of GNP, over twice the proportions of 1941. It is interesting to note at this point that the percentage of the National debt privately held increased from 76.9% in 1941 to an average of 81% during 1942 - 1944 even though the debt increased 311%. Also of note is the portion of debt held by foreign interests. Exact figures for WW II are difficult to determine but the amount was something less than \$3.7 billion of the \$48.9 billion debt in 1941, less

than 7.5%. The amount of the 1982 debt of \$1140.9 billion held by foreign interests was \$125.1 billion or 11.0%.

The difficulty of financing expansion capital of the magnitude required for WW III, the inflationary pressures of allowing the market place to determine interest rates (which would undoubtedly rise in the face of such expansion) and the difficulty of financing a rapidly expanding national debt leads the authors to believe the Federal Reserve would eventually resort to pegging the discount rate as was done during WW II or allowing it to float within a narrow band. Therefore, the prediction below is based on such a pegging (in the vicinity of 11%) which would result in debt service expenditures rising relatively slowly as a roughly constant percentage of GNP. The deficits upon which the predictions are based will be discussed in a subsequent section.

Table 7
WW II National Debt Service,
Predicted WW III National Debt Service

	1941	1942	1943	1944
National Debt Service (billions)	1.1	1.3	1.8	2.6
%Federal Expenditures	5.4%	2.3%	2.1%	2.7%
%GNP	0.9%	0.8%	0.9%	1.2%
	1983	1984	1985	1986
National Debt Service	87.3	110.7	143.7	183.8

%Federal Expenditures	11.6%	11.7%	9.2%	10.3%
%GNP	2.8%	2.8%	3.0%	3.5%

5.A Federal Receipts.

Federal receipts, for this portion of the analysis, will be treated in aggregate rather than by receipt category (income taxes, corporate taxes, other taxes and revenues, and social security). Specific categories will be addressed in section 5 - 11. Federal receipts in 1941 accounted for 12.3% of GNP, rising rapidly to about 20% in 1944. Federal receipts have varied between 17% and 20% since WW II, running about 20% for the past 15 years. It would not be unreasonable to expect the Congress to increase taxes to support a war effort - the question is - how much? The Federal governments "take" as a percentage of GNP increased 32% between 1941 and 1943. A similar increase from today's starting point would yield revenues amounting to 26.4% of GNP. Lincoln, writing of WW II, indicated percentages as high as 30% to 40% could be feasible in a war environment.¹ The Congress would probably be loath to consider such rates (this was certainly the case during WW II). The assumption that the

1. George A. Lincoln, Economics of National Security, Second Edition, Prentice Hall Inc., 1954, pp 444

Congress would prefer to defer the bulk of the financial cost of the war to the future by borrowing as well as imposing marginal tax increases amounting to 1% - 2% of GNP would probably be safe. Such tax increases would yield:

Table 8
WW II Federal Receipts,
Predicted WW III Federal Receipts

	1941	1942	1943	1944
Federal Receipts (billions)	15.4	22.9	39.3	41.0
%GNP	12.3%	14.5%	20.5%	19.5%
	1983	1984	1985	1986
Federal Receipts	633.0	842.2	1077.6	1181.4
%GNP	20.3%	21.3%	22.5%	22.5%

5.3 Federal Expenditures, Receipts, Deficit and National Debt.

The following is a summary of the hypothetical WW III Federal budget:

Table 9
Hypothetical WW III Federal Budget

(billions)	1983	1984	1985	1986
Federal Expenditures	748.8	945.5	1556.2	1779.2
Federal Receipts	633.0	842.2	1077.6	1181.4

Deficit	115.8	103.3	478.6	597.8
%GNP	3.7%	2.6%	9.9%	11.4%
National Debt	1256.7	1360.0	1838.6	2436.4
%GNP	40.3%	34.4%	38.4%	46.4%

Note: The projected tax increase of 1% in 1984 from Table 8 in conjunction with projected growth in GNP from Table 1 results in a dip in the deficit for 1984. This would be a questionable phenomenon in the real world.

5.10 How to Finance?

Any beginning economics student could take exception to the predictions above. As previously stated, the simplistic predictions are not meant to be definitive but rather, a possible budget scenario set in terms of rates of increase of WW II but scaled back by extant realities. The forecast of a \$1.2 trillion defense budget for one year would cause apoplexy on Capitol Hill and the forecaster to be labeled a madman. One need only look at the Civil War, WWI and WW II to realize such exorbitant amounts are not only possible in today's dollars but also probably conservative. Given the magnitude of the problem, how does the nation finance such an effort? This is discussed in the next section.

5.11 Hierarchy of Finance Actions.

The timing and degree of the proposed financing actions discussed below are highly inter-dependent and variable. A primary consideration is the velocity of the crisis onset. If WW III began unexpectedly, many of the actions would occur hard upon one another or simultaneously. A gradual building of tensions over six to twelve months, a more likely situation, would result in:

- Federal Reserve Discount Rate. Early on in the crisis, and in the absence of tax increases, the Federal Reserve would let interest rates rise in response to market pressures for expansion capital. This would begin forcing marginal or non-essential firms out of the capital markets. Defense contractors, while facing the same high interest rates, would be armed with profitable contracts for war materials enabling them to bid in the capital market. Increased foreign investment capital would begin flowing into the country in response to increased interest rates and in search of a safe haven. The higher rates of interest would also draw more domestic private savings into the market. Such savings that found its way into the U. S. Treasury would tend to reduce inflation. Results from the recently completed Readiness Exercise 82 B indicate interest rates

would break the 20% mark in a matter of months if this were the only finance action taken. Such interest rates would obviously throw the market into chaos. For this reason, the Federal Reserve would consider pegging or bounding the discount rate. This would lead, in the absence of other financing measures, to defacto money printing and the next step in the hierarchy.

- Increasing Federal Income Taxes. Congress would initially be hesitant to take this step but, if history is a guide, would eventually realize its necessity. Personal income taxes represent the largest portion of Federal receipts, 48.2% in 1982, and a source where a relatively small incremental increase will yield relatively large increases in revenues, given that GNP is increasing. It is interesting to note that Federal income taxes as a percentage of receipts rose from 21.4% in 1941 to 46.1% in 1944. This corresponded, in the same period, to an increase in percentage of personal income paid in Federal income tax from 3.3% to 11.5% (in aggregate). Federal income taxes paid as a percentage of personal income in 1982 was 11.9%. Restructuring income tax rates or imposing a surcharge to raise the aggregate rate to 16% would increase Federal receipts by about \$115 billion, an amount roughly equal to the fictitious 1983 budget deficit predicted above. This increase to 16% represents the 32% increase in tax rates discussed earlier. The

thought of an increase of this dimension would again cause apoplexy on Capital Hill; an increase to 13% - 14% seems politically more feasible. This would leave a fictitious 1983 deficit of about \$60 billion (it should be remembered that this deficit is predicated on an aggregate income tax rate increase of 2%, a significant amount of revenue) and leads to the next step in the hierarchy.

- Increase Other Taxes. Corporate taxes in 1941 represented 49.4% of Federal receipts. Other taxes (not including social security) represented 22.7% of Federal receipts. The dollar of the day value of these two sources doubled by 1944 but represented, by virtue of the rapid growth of income taxes, 31.5% and 17.1% of revenues respectively. Corporate and other taxes comprised 8.0% and 11.2% respectively of Federal receipts in 1982. Should war occur, windfall profit tax legislation would be enacted with vigor if the past is any indication of the future. Other taxes would also be a fruitful area for several reasons. Increasing taxes on cigarettes, new car sales, durable consumer goods, alcoholic beverages and gasoline for private vehicles, to name a few, would bring in more revenue, discourage purchases of non-essential goods (leading in turn to the redirection of resources to war production) and, in the case of gasoline taxes, encourage energy conservation. Increasing other taxes by 25% would bring in about \$17 billion. Increasing

corporate tax by 10% would bring in about \$5 billion more.

- Tariffs and other Trade Barriers. Assuming the economy was approaching full employment (3 - 4% unemployed) by this point in the war, the next step in the hierarchy of actions would be to reduce or rescind import tariffs. This would serve two important functions:

1. If consumer goods are available from abroad for the public's purchase, then more domestic resources can be diverted to war production.
2. The availability of these goods from abroad would dissipate some consumer demand.

While expansion of world trade was not listed as a result of rescinding tariffs; it would certainly be a beneficial side effect. Commercial exports remained practically constant, in dollars of the day, at about \$5.5 billion from 1941 to 1944. As a percentage of GNP, commercial exports declined from 4.8% to 2.6% in this period. Exports, including Lend-Lease material, rose from \$7.5 billion to \$21.9 billion during the 1941 - 1944 period, an increase from 6.0% to 10.4% of GNP. Imports in the 1941 - 1944 period rose from \$4.7 billion to \$7.2 billion, representing a constant 3.4% of GNP. By comparison, 1982 exports were \$349.7 billion, 11.4% of GNP, and imports were \$333.2 billion, 10.9% of GNP. Imports should be expected to rise in response to demands for war

materials and consumer goods (providing merchant shipping and open sealines of communications continue to exist). Exports of war materials to allies likewise could be expected to increase.

- Interest Rates and Credit Controls. As previously stated, rising interest rates will prevent many would-be borrowers from making sizable purchases. This in turn will reduce the demand for homes, cars and major appliances with attendant re-direction of resources to war production. Interest rates, if pegged, would only partially accomplish this goal. Credit controls are the next step in the hierarchy. These controls are an administrative burden but are very effective in diminishing demand for non-essential goods. Credit controls can be imposed over a wide range of goods in a variety of ways. Banks and other financial institutions can be restricted from making loans over specified amounts, require significant deposits toward the loan or be restricted from making a loan at all in the case of homes, cars, vacations and other targeted goods. This, again, allows re-direction of resources to war production and acts as a form of forced savings. Credit controls, lack of durable consumer goods and expansion of the economy during WW II resulted in personal savings as a percent of personal income rising from 10.8% in 1941 to 22.2% in 1944. Savings as a percent of personal income was 5.6% in 1982. It is

obvious that much could be done in this area.

- Wage and Price Controls. These controls form the next step in the hierarchy of actions as the area of last resort is approached. Wage and price controls are intended to reduce or control inflation and provide stabilization in the labor market. These controls are anathema to a free market economy; the market is not allowed to perform its function of allocating goods and services on the basis of supply and demand. Wage and price restrictions, however, can be very effective, however, as long as the patriotic will of the people holds sway over normal demand patterns. Wage and price controls are not recommended unless absolutely necessary. The administrative costs to the Federal government of operating a control organization similar in size to WW II (60,000 personnel) would be considerable.

- Rationing. Rationing of consumer goods is the last resort in the hierarchy of actions. The market place is much better at allocating goods than any government agency could ever hope to be. The use of transfer payments for the truly needy would be more cost effective than trying to decide who gets how many loaves of bread or gallons of gasoline. The administrative costs would be tremendous and such a system would be fraught with opportunity for graft and favoritism. A rationing system should only be considered for unusual situations such a geographical area where war damage has

been sustained.

5.13 Personal Income, Consumption and Savings.

Assuming the Federal government initiates some combination of the actions recommended above in order to finance the war, it would be of interest to investigate the impact on the consumer, particularly with an eye toward personal savings available for non-inflationary borrowing. This section discusses this topic.

Personal income as a percentage of GNP has been relatively constant over the past 45 years, varying from a high in 1946 of 84.8% to a low of 70.5% in 1964. This percentage has averaged 81% during the past 40 years. GNP, in constant 1972 dollars, has risen from \$400.4 billion in 1941 to \$1475.5 billion in 1982, an increase of 368%. Per capita income, in constant 1972 dollars, has risen from \$2292.10 to \$5196.20 in the same period, an increase of 226%. Taxes paid (Federal, state and local), in constant 1972 dollars have risen from \$10.6 billion to \$191.6 billion in 1941 - 1982 period, an increase of 1810% or 44% per year.

Personal consumption as a percentage of income has remained relatively constant since WW II, hovering around 77%. In the years prior to WW II, consumption was 92% of income, reflecting the effects of the depression. Personal savings likewise

reflected the depression prior to WW II; representing about 3% of income. The effects on the consumer of the rapid expansion of the economy during WW II with direction of resources to war production, improved wages, credit controls and emphasis on savings are most vividly illustrated by consumption and savings. As previously stated, personal savings increased from 10.8% in 1941 to 22.2% in 1944. Personal consumption as a percentage of income fell from 84.7% to 65.8% in the same period. This is all the more fascinating in that consumption, in constant 1972 dollars rose from \$259.0 billion to \$292.4 billion in the same period. The consumer was spending proportionately less, saving proportionately more and still had more money to spend in real terms. Application of these trends, with moderation, to the WW III GNP predictions in section 5.2 will provide an estimate of consumption and savings. Assumptions utilized are:

- The increase in aggregate Federal income tax would be from 11.3% to 14.0%.
- State and local taxes would remain constant at about 4% of personal income.
- The decrease in personal consumption as a percentage of income from 1941 to 1944 was 18.9%. This rate seems rather precipitous (although probably possible if the chips were down); hence a decrease of 12% will be used.
- Existing 1982 level of percent of income paid to business

for interest, consumer credit, will decline to 1.5%. This is an arbitrary decline but considered conservative.

With the above assumptions, WW III personal income distribution would be thus:

Table 10
Predicted WW III Personal Income
Distribution

	1983	1984	1985	1986
Personal Income (billions)	2494.4	3163.0	3831.5	4200.6
Consumption	1920.7	2277.4	2605.4	2730.4
% Income	77%	72%	68%	65%
Interest Paid	57.3	63.3	72.8	63.0
% Income	2.3%	2.0%	1.9%	1.5%
Taxes Paid	391.6	531.4	682.0	747.7
% Income	15.7%	16.8%	17.8%	17.8%
Savings	124.7	290.9	471.3	659.5
% Income	5.0%	9.2%	12.3%	15.7%

A comparison of previous estimates of budget deficits and personal savings for WW III with WW II follows:

Table 11
WW II Budget Deficit versus Personal
Savings, Predicted WW III Budget
Deficit versus Personal Savings

	1941	1942	1943	1944
Deficit	5.1	33.1	46.6	54.5
Savings	10.3	27.2	32.9	36.6

	1983	1984	1985	1986
Deficit	115.8	103.3	478.6	597.8
Savings	124.7	290.9	471.3	659.5

5.13 Consumer Psychology.

The WW III projections, when compared with WW II data, are obviously optimistic. It does reveal, however, a glimmer of hope for financing a large portion of the war deficit with non-inflationary personal savings. The increase in the percentage of the national debt privately held (from 76.9% in 1941 to 80.8% in 1944) in WW II indicates the government was relatively successful in this effort. This success in conjunction with artificially low interest rates, wage and price controls and tremendous growth in productivity lead to the astounding growth of GNP during WW II. Even more astounding is the fact that the consumer's lot improved. Durable consumer goods were not available but, in general, the man on the street was better off. He had more non-durable goods available, more money in his pocket and more money going into savings for the day the war ended. One dramatic difference which must be borne in mind by decision makers is the psychology of the consumer in WW II and the present. The depression prior to WW II, deeply etched in everyone's memory, led the majority of people to believe the

economic expansion bubble would burst as soon as the war was over and depressive economic conditions would return. This caused many people to hold their money for purchases after the war when it was generally expected prices would decline. The present day consumer is not imbued with such an outlook; this has far reaching consequences. In the words of a noted economist of the day, L. V. Chandler, when writing of WW II:

Large sections of the population postponed purchases to wait for the widely predicted downturn. It is frightening to contemplate what might have happened in the absence of widespread fear of an early postwar depression.

2

2. Lester Chandler, Inflation in the United States 1940 - 1948, Harper, New York, 1951, p45

Chapter 6

PLANNING FOR ECONOMIC MOBILIZATION

Mobilization of the industrial base and subsequent production of war materials will be highly dependent upon the availability of financial resources and the stability of the financial system. Consequently, economic preparedness planning and interagency cooperation are critical issues for national mobilization. To this end, several legislative acts and executive orders provide guidance for current economic planners:³ The NATIONAL SECURITY ACT OF 1947 requires the Executive branch to

"advise the President concerning the coordination of military, industrial, and civilian mobilization, including programs ...for the maintenance and stabilization of the civilian economy in time of war, and for the adjustment of such economy to war needs and conditions."

Executive Order 11490 provides detailed agency guidance for economic mobilization preparedness: For example, section 3006 charges the heads of federal agencies to

3. Portions of this section are quoted directly from: "Direct and Indirect Emergency Stabilization Measures and Controls," an unpublished background paper for use of the Working Group on Economic Stabilization and Public Finance of the Emergency Mobilization Preparedness Board. Washington: FEMA, 1962.

"cooperate with the Federal Emergency Management Agency (FEMA) and the federal financial agencies in the development of emergency preparedness measures involving emergency financial and credit measures.,.,"

Sections 301 and 302 direct the Secretary of the Treasury

to:

...develop policies, plans, and procedures for the performance of emergency functions with respect to (1) stabilization aspects of the monetary, credit and financial system; (2) stabilization of the dollar in relation to foreign currencies; (3) collection of revenue; (4) regulation of financial institutions; (5) supervision of the Federal depository system; (6) direction of transactions in government securities; (7) tax and debt policies; (8) participation in bilateral and multilateral financial arrangements with foreign governments; (9) regulation of foreign assets in the United States and of foreign financial dealings (in consultation with the Secretaries of State and Commerce); (10) development of procedures for the manufacture and/or issuance and redemption of securities, stamps, coins, and currency; (11) development of systems for the issuance and payment of Treasury checks; (12) maintenance of the central government accounting and financial reporting system....(16)granting of loans (including participation in or guarantees of loans) for the expansion of capacity, the development of technological processes, or the production of essential material.....

Section 302 Financial Coordination. The Secretary shall assume the initiative in developing plans for implementation of national policy on sharing war losses and for the coordination of emergency monetary, credit, and Federal benefit payment programs of those departments and agencies which have responsibilities dependent on the policies or capabilities of the Department.

Section 1701 tasks the Federal Bank Supervisory Agencies for:

Financial Plans and Programs. The Board of Governors of the Federal Reserve System, the Comptroller of the Currency, the Federal Home Loan Bank

Board, the Farm Credit Administration, and the Federal Deposit Insurance Corporation shall participate with the Federal Emergency Management Agency, the Department of the Treasury, and other agencies in the formulation of emergency financial and stabilization policies. The heads of such agencies shall, as appropriate, develop emergency plans, programs, and regulations, in consonance with national emergency financial and stabilization plans and policies, to cope with potential economic effects of mobilization or an attack, including, but not limited to the following:

(1) Money and credit. Provision and regulation of money and credit in accordance with the needs of the economy, including the acquisition decentralization, and distribution of emergency supplies of currency; the collection of cash items and non-cash items; and the conduct of fiscal agency and foreign operations.

(2) Financial institutions. Provision for the continued or resumed operation of banking, savings and loan, and farm credit institutions, including measures for the recreation of evidence of assets or liabilities destroyed or inaccessible.

(3) Liquidity. Provision of liquidity necessary to the continued or resumed operation of banking, savings and loan, credit union, and farm credit institutions, including those damaged or destroyed by enemy action.

(4) Cash withdrawals and credit transfers. Regulation of the withdrawal of currency and the transfer of credits including deposit and share account balances.

(5) Insurance. Provision for the assumption and discharge of liability pertaining to insured deposits and insured savings accounts or withdrawable shares in banking and savings and loan institutions destroyed or made insolvent.

Section 1702. Sharing of war losses. Head of agencies shall, as appropriate, participate with the Federal Emergency Management Agency and the Department of the Treasury in the development of policies, plans and procedures for implementation of national policy on sharing war losses.

Section 2250 tasks the National Credit Union Administration:

Functions. The Administrator of the National

Credit Union Administration shall:

(1) Credit Union Operations. Provide instructions to all State and Federally chartered credit unions for the development of emergency plans to be put into effect as soon as possible after an attack upon the United States in order to guarantee continuity of credit union operations.

(2) Economic stabilization. Provide guidance and funds as necessary to credit unions that will contribute to stabilization of the nation's economy by helping to establish and maintain a sound economic base for continuing operations, combating inflation, maintaining confidence in public and private financial institutions, and promoting thrift.

The Securities and Exchange Commission's responsibilities are as follows:

Section 2501. Functions. The Securities and Exchange Commission shall collaborate with the Secretary of the Treasury in the development of emergency financial control plans, programs, procedures, and regulations for:

(1) Stock trading. Temporary closure of security exchanges, suspension of redemption rights, and freezing of stock and bond prices, if required in the interest of maintaining economic controls.

(2) Modified trading. Development of plans designed to reestablish and maintain a stable and orderly market for securities when the situation permits under emergency conditions.

(3) Protection of securities. Provision of a national records system which will make it possible to establish current ownership of securities in the event major trading centers and depositories are destroyed.

(4) Flow of capital. The control of the formation and flow of private capital as it relates to new securities offerings or expansion of prior offerings for the purpose of establishing or reestablishing industries in relation to the Nation's needs in or following a national emergency.

(5) Flight of capital. The prevention of the flight of capital outside this country, in coordination

with the Secretary of Commerce, and the impounding of securities in the hands of enemy aliens.

More recently, NATIONAL SECURITY DECISION DIRECTIVE Number 47 (NSDD-47) restated the national policy for emergency mobilization preparedness and provided general principles for program planning. Additionally it set forth specific policies and programs; including a program for economic stabilization and public finance. This program is among other things, to:

...increase capabilities to: provide the government with efficient and equitable financing sources and payments mechanisms for emergencies; and

provide fiscal authorities with adequate revenue-raising powers to stabilize the economy in the face of any additional resource requirements needed to deal with or recover from an emergency; available fiscal measures should be selected to provide maximum efficiency and equity, preserve incentives, and minimize administrative burdens.

NSDD-47 also directs the Emergency Mobilization Preparedness Board to prepare a plan of action to implement these programs. It further directs all departments and agencies to manage their personnel and financial to develop the required capability. Funding is to be accomplished within the normal budgeting process.

6.1 Economic Stabilization Agency

Under current planning, when war is imminent, the Director of FEMA will forward a draft Defense Resources Act and proposed

executive orders to the White House and the Office of Management and Budget. The Defense Resources Act when passed would, among other things, authorize the President to establish the Office of Defense Resources (CDR) and the Economic Stabilization Agency (ESA). At the same time, FEMA will recommend that the President impose a 90 day freeze and possibly a wage-price rollback to hold the line until the ESA is fully functional.

The Economic Stabilization Agency would initially be staffed by FEMA personnel, National Defense Executive Reservists, personnel detailed from other Federal agencies, emergency hires from the private sector, and volunteers. Its functions would be to establish a national emergency stabilization program to: maintain a stable price and cost structure; prevent excessive growth in income; and assure equitable distribution of essential civilian goods. ESA would hopefully have a nationally recognized administrator who would probably report directly to the President.

Chapter 7

SUMMARY

7.1 Conclusions and Recommendations

Clearly there is no easy solution to the problems of trying to finance the next war or to dealing with the impact of that crisis on the U. S. financial network. Equally certain is the fact that there is no singular policy that can adequately cope with all exigencies as they unfold. What is generally agreed is that, as occurred in WW II, all methods of available finance would be employed, and the full gamut of indirect and direct controls would be employed in an effort to control inflation and stabilize the economy. This was a basic assumption at the beginning and has been further reinforced during the research that was undertaken for this paper.

Although the crystal ball would not reveal the conduct and outcome of WW III, there are, nevertheless, several issues which surfaced that are of particular interest and should be addressed to be better prepared to deal with the uncertainties as they become apparent.

Pivotal to the success of the federal government's policies and essential to the economic health of the Nation during a major crisis is the development and execution of sound coordinated economic planning which is under the direction of a central agency. There is still a longway to go toward this end.

Chapter Six discussed those agencies that have specific tasks for economic preparedness planning and mobilization in the event of a national emergency. Our studies indicate that this is essentially the extent of any coordinated planning. Preoccupied with exigencies of today's problems, little attention or thought is being applied to planning for a world war, which may never happen (We hope). The Federal Emergency Management Agency (FEMA) is the executive agent for mobilization matters and is actively engaged in studies and exercises to the limit of its resources. FEMA's resources are finite and the direction and control that its exercises are, for the most part limited to joint exercises.

There is considerable difference of opinion among the agencies regarding methods of finance and stabilization. The Treasury advocates free-market financing with little or no controls. FEMA prefers an immediate wage and price freeze at the onset of hostilities, and the Federal Reserve favors letting interest rates rise to some undetermined level and then impose credit controls as required. None of these policies can be implemented without the cooperation of several agencies. FEMA

lacks the clout to insure that policies are well coordinated. Moreover, in time of war, FEMA's authority would undoubtedly be usurped by the Oval Office. Therefore, all central planning during peacetime should also be the direct responsibility of the office of the President. To insure effective planning and coordination all direction should be initiated by the President's immediate staff or the National Security Council rather than expect FEMA to manage the diverse inputs that originate from the numerous federal agencies.

A common complaint was that the Department of Defense had not adequately done its homework. Without even a rough estimate of requirements and dollar costs for a WW III, it was difficult for any of the agencies to hypothesize the methods of finance and controls that would be required. Again it is most difficult for DOD to be thinking in STAR WARS terms when all its time is consumed with today's budget problems. However, it is a necessary step if effective planning is to be developed and, secondarily, it could provide more insight to the economic effects of the exorbitantly high costs of weapons systems and the long lead times that are required for their development.

Although the circumstances of WW III may be entirely different than any of the other major wars in which the U. S. was involved, it is safe to assume that a large portion of defense expenditures will be financed by an extensive and vigorous tax program. A war that requires full mobilization presumably would

not present the same dilemma as occurred during Vietnam when social programs competed mightily for the existing federal dollars. More tax dollars could be squeezed out for defense as the analysis of WW II indicates, however, there would still be a shortfall in excess of \$50 billion. To overcome that shortfall, government borrowing would be necessary. To prevent the dangerous expansion of money and income, specific fiscal and monetary policies will have to be applied. Interest rates will have to be closely monitored and maintained no higher than 16 to 18 %. Securities sales to the nonbank public should be maximized and sales to commercial banks and the Federal Reserve should be avoided or at least minimized. Credit controls are particularly powerful and should be used to this end.

Direct controls should no longer be considered only as "tools of last resort". They may be required at the outset to give indirect controls the opportunity to become effective. In order to effect a timely initial "general freeze" it is essential to have legislation in hand. Accordingly, the Congress should consider enactment of standby legislation to enable the President to take immediate action.

When faced with the uncertainty of another World War and knowing the high cost of modern weapon systems, the high cost of the "standing army", the large proportion of federal expenditures consumed by transfer payments, and the reluctance of the general public to give up social needs for defense, it is very easy to

become pessimistic, keep our heads buried in the sand and ignore the problem. Nevertheless, there is cause for optimism. A \$1.3 trillion defense budget for tomorrow should be no more inconceivable than a \$87 billion defense budget was in 1944. Janeway has said that "american primacy is the result of its economic vigor, not its political wisdom".⁴ The economic strength of the nation will determine the outcome of WW III, should it ever occur. Without a sound and expanding economy, the margin of victory will be severely diminished. In order to insure a healthy economy, we must increase our productivity today and proceed with coordinated economic planning for that war which we all hope never comes to pass.

4. Janeway, The Economics of Crisis: War, Politics, and the Dollar, p. 301

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Appendix A

STATISTICAL DATA

The following appendix is a compilation of statistical data used in the preparation of the foregoing report. The data is provided should the reader desire to compare economic trends during WWII, the Korean War, the Vietnam conflict and the period 1980 - 1982 in greater detail.

The number in parenthesis adjacent to or under a data label line corresponds to the data source footnotes summarized at the end of the appendix.

All amounts are expressed in billions of dollars unless otherwise indicated. The label "(1973)" indicates the dollar amount in the previous line is constant 1973 dollars. Ratios, indicated by "XGNP" or another quantity are expressed as percentages using constant 1973 dollars for the computation (except exports and imports which use current year dollars). Ratios using current year dollars for computation are labeled "year."

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FEDERAL RECEIPTS, EXPENDITURES, DEBT AND PRIVATELY HELD 1939 - 1946

YEAR	1939	1940	1941	1942	1943	1944	1945	1946
GDP	98.9	100.0	125.3	158.5	192.1	218.6	212.4	289.8
(1) (1972)	119.8	144.1	408.4	461.7	531.9	559.1	588.4	478.3
DEFLATOR (2)	28.4	29.1	31.2	34.3	36.1	37.0	37.9	42.9
INFLATION RATE (3)	-1.3	1.7	4.9	18.6	6.1	1.7	2.3	2.5
FEDERAL RECEIPTS (4)	6.7	8.6	12.4	22.9	39.3	41.0	42.5	32.1
(1972)	23.6	28.6	42.4	65.8	108.9	118.8	112.1	89.1
% GDP	7.4	8.6	12.3	14.5	20.5	19.5	20.0	18.6
FEDERAL EXPENDITURES (4)	8.9	12.0	20.3	36.1	65.3	92.5	84.6	31.6
(1972)	31.3	34.4	63.7	162.6	237.7	258.1	223.2	81.1
% GDP	9.8	12.8	16.4	35.4	44.7	45.4	39.8	17.8
DEFICIT (4)	2.2	1.3	8.1	33.1	46.6	54.5	42.1	-3.5
(1972)	7.7	4.5	16.3	96.5	129.1	147.3	111.1	-4.8
% GDP	2.4	1.3	4.1	20.9	24.3	25.9	19.8	-1.7
NATIONAL DEBT (4)	48.4	42.9	48.9	72.4	136.7	201.0	258.7	269.4
(1972)	142.3	147.4	156.7	211.1	378.7	543.2	682.6	613.7
% GDP	44.5	42.8	38.1	45.7	71.2	95.5	121.8	188.3
PRIVATELY HELD DEBT (5)	31.4	32.8	37.6	58.4	112.8	162.5	204.3	208.7
(1972)	118.6	112.7	128.5	178.3	312.5	439.2	539.1	475.4
% DEBT	77.7	76.5	76.9	80.7	82.5	80.8	79.0	77.5

FEDERAL RECEIPTS, EXPENDITURES, DEBT AND PRIVATELY HELD 1950 - 1953

YEAR	1950	1951	1952	1953
GDP	285.6	338.8	348.8	366.8
(1)				
(1972)	534.8	579.4	608.8	623.6
DEFLATOR (2)	52.6	57.1	57.9	58.8
INFLATION				
RATE (13)	5.8	5.9	8.9	8.6
FEDERAL				
RECEIPTS	58.8	64.3	67.3	78.1
(4)				
(1972)	92.3	112.6	116.2	119.2
% GDP	17.4	19.4	19.3	19.1
FEDERAL				
EXPENDITURES	48.8	57.8	71.1	77.1
(4)				
(1972)	76.1	101.2	122.8	131.1
% GDP	14.2	17.5	20.4	21.8
DEFICIT	-9.2	-6.5	3.7	7.1
(4)				
(1972)	-17.2	-11.4	6.4	12.1
% GDP	-3.2	-2.8	1.1	1.9
NATIONAL				
DEBT	257.4	255.2	259.1	266.1
(4)				
(1972)	488.2	446.9	447.5	452.6
% GDP	89.8	77.1	74.5	72.6
PRIVATELY				
HELD DEBT	219.5	217.2	214.8	218.5
(14)				
(1972)	409.5	388.4	371.8	371.6
% DEBT	85.3	85.1	82.9	82.1

FEDERAL RECEIPTS, EXPENDITURES, DEBT AND PRIVATELY HELD DEBT 1964 - 1972

YEAR	1964	1965	1966	1967	1968	1969	1970	1971	1972
GDP	537.7	591.1	735.8	799.6	873.4	944.8	992.7	1077.6	1185.9
(1)									
(1972)	376.4	383.3	946.9	1011.4	1058.1	1087.6	1085.6	1122.4	1185.9
DEFLATOR (2)	72.7	74.4	76.8	79.1	82.5	86.5	92.2	97.8	100.8
INFLATION RATE (13)	1.2	1.9	3.4	3.8	4.7	6.1	5.5	3.4	3.4
FEDERAL RECEIPTS (4)	114.9	124.3	144.8	158.5	174.4	196.9	191.9	198.6	227.5
(1972)	158.8	167.1	189.6	198.3	211.4	222.5	235.9	239.7	227.5
% GDP	18.8	18.8	13.5	18.8	20.8	20.5	19.8	18.2	19.2
FEDERAL EXPENDITURES (4)	118.2	123.8	143.6	163.7	188.5	188.4	204.4	228.6	244.3
(1972)	162.6	166.4	187.8	207.8	218.8	212.9	219.3	227.4	244.3
% GDP	18.6	17.9	19.7	20.5	20.7	19.6	20.2	20.3	20.6
DEFICIT (4)	3.3	9.5	1.8	13.2	14.1	-1.4	12.4	29.8	16.8
(1972)	4.5	8.7	2.3	16.7	7.3	-1.5	13.3	22.7	16.8
% GDP	2.5	2.1	2.2	1.6	2.7	-0.9	1.2	2.8	1.4
NATIONAL DEBT (4)	311.7	317.3	319.9	326.2	347.6	352.7	378.9	398.1	405.4
(1972)	428.7	426.5	416.5	412.4	421.3	393.7	398.8	418.4	405.4
% GDP	48.9	46.9	42.9	48.8	39.8	36.7	36.7	36.6	36.8
PRIVATELY HELD DEBT (17)	288.1	281.6	284.2	284.4	217.8	214.8	217.2	222.4	242.6
(1972)	275.2	271.8	265.9	259.4	262.8	241.8	231.8	235.5	242.6
% DEBT	64.2	62.5	62.8	62.7	62.4	60.5	58.6	57.4	57.1

FEDERAL RECEIPTS, EXPENDITURES, DEBT AND PRIVATELY HELD DEBT

1980 - 1982

YEAR	1980	1981	1982
GDP	2533.1	2537.7	2657.5
(1)			
(1972)	1474.8	1582.6	1475.5
DEFLATOR (2)	178.6	151.5	287.2
INFLATION RATE (13)	12.4	8.3	3.9
FEDERAL RECEIPTS	573.2	628.2	614.7
(4)			
(1972)	388.9	321.3	256.7
% GDP	21.8	21.4	22.1
FEDERAL EXPENDITURES	682.1	688.2	762.6
(4)			
(1972)	337.1	332.8	368.1
% GDP	22.9	23.4	24.9
DEFICIT	58.4	68.8	147.9
(4)			
(1972)	32.7	38.7	71.4
% GDP	2.2	2.8	4.8
NATIONAL DEBT	986.4	956.5	1148.9
(4)			
(1972)	387.5	388.7	358.6
% GDP	34.4	33.9	37.3
PRIVATELY HELD DEBT	583.2	683.4	731.2
(21)			
(1972)	323.9	348.4	381.9
% DEBT	63.0	66.2	68.3

NATURE OF FEDERAL DEBT, RELATION OF M1 AND M2 TO GDP 1939 - 1946

YEAR	1939	1940	1941	1942	1943	1944	1945	1946
GDP	30.3	100.0	125.0	150.5	192.1	210.6	212.4	293.0
(1)								
(1972)	319.3	344.1	400.4	461.7	531.6	563.1	560.4	470.3
DEFLATOR (2)	20.4	20.1	31.2	34.3	36.1	37.0	37.9	42.0
NATIONAL DEBT	40.4	42.9	44.9	72.4	136.7	201.0	250.7	260.4
(4)								
(1972)	142.3	147.4	156.7	211.1	370.7	542.2	602.6	615.1
DEBT IN (3)								
NONREDEEMABLE SECURITIES	32.5	34.2	37.7	50.5	95.1	140.3	181.1	180.4
NON-								
REDEEMABLE SECURITIES	7.9	7.9	11.2	21.9	41.6	60.7	75.2	70.7
DEBT INCREASE OVER PREVIOUS YEAR	—	2.5	6.0	27.5	64.3	64.3	57.7	10.7
(1972)	—	5.2	9.3	34.3	157.6	164.6	139.3	-67.5
% INCREASE OVER PREVIOUS YEAR	—	3.6	6.3	34.7	79.4	43.5	25.7	-4.9
INCREASE OVER 1939 THEN	—	2.5	8.5	32.0	96.3	160.6	210.3	220.0
INCREASE OVER 1939 (1972)	—	5.2	14.5	60.8	236.4	401.0	540.3	470.0
% INCREASE OVER 1939 THEN	—	6.2	21.0	79.2	230.4	397.3	540.3	560.0
% INCREASE OVER 1939	—	3.6	10.2	40.4	166.2	281.9	379.0	330.4
M1	35.2	40.2	40.6	62.4	79.6	90.4	102.4	100.7
(5)								
M2	62.9	71.3	79.0	100.4	123.3	140.3	173.5	179.2
(5)								
M2 AS % OF GDP	70.5	71.3	63.2	63.3	64.2	71.2	81.7	61.4

NATURE OF FEDERAL DEBT, RELATION OF #1 AND #2 TO GDP 1950 - 1953

YEAR	1950	1951	1952	1953
GDP	286.5	338.8	348.9	366.8
(1)				
(1972)	234.8	275.4	288.8	323.6
DEFLATOR (2)	51.6	57.1	57.9	58.8
NATIONAL DEBT	257.6	281.2	283.1	286.1
(4)				
(1972)	188.2	246.9	247.5	252.6
DEBT IN (14)				
MARKETABLE SECURITIES	155.1	137.1	148.3	147.3
NON-MARKETABLE SECURITIES	102.5	144.9	134.8	138.8
DEBT INCREASE OVER PREVIOUS YEAR	—	-2.2	1.9	7.8
(1972)	—	-22.3	8.6	5.1
% INCREASE OVER PREVIOUS YEAR	—	-6.9	8.1	1.1
INCREASE OVER 1950 (1972)	—	-2.2	1.7	8.7
INCREASE OVER 1950 (1972)	—	-22.3	-2.7	-27.7
% INCREASE OVER 1950	—	-8.9	8.7	3.4
% INCREASE OVER 1950	—	-6.9	-6.8	-1.8
#1	116.8	119.8	122.6	127.4
(15)				
#2	157.2	201.2	218.1	218.2
(15)				
#2 AS % OF GDP	62.8	68.8	68.4	57.3

NATURE OF FEDERAL DEBT, RELATION OF M1 AND M2 TO GDP

1964 - 1972

YEAR	1964	1965	1966	1967	1968	1969	1970	1971	1972
GDP	637.7	691.1	735.8	793.6	873.4	944.8	992.7	1077.6	1105.9
(1)									
(1972)	376.4	323.3	346.8	1011.4	1058.1	1087.6	1065.6	1122.4	1105.9
DEFLATOR (2)	72.7	74.3	76.8	79.1	82.5	86.8	91.4	96.8	100.0
NATIONAL DEBT									
(4)									
(1972)	428.7	427.1	416.3	412.4	421.3	407.3	405.8	414.7	405.4
DEBT IN (17):									
MARKETABLE SECURITIES	294.5	298.7	211.7	218.7	226.6	226.1	232.6	245.4	237.2
NON-MARKETABLE SECURITIES	102.6	104.4	105.9	111.6	117.8	123.5	136.4	159.8	168.2
DEBT INCREASE OVER PREVIOUS YEAR	—	5.6	2.6	6.3	21.4	6.1	17.2	27.2	28.3
(1972)	—	-1.7	-10.5	-4.1	8.9	-13.8	-1.7	8.9	11.7
% INCREASE OVER PREVIOUS YEAR	—	-0.4	-2.5	-1.8	2.2	-1.3	-0.4	2.2	2.8
INCREASE OVER 1964 THEN	—	5.6	8.2	14.3	35.9	42.0	59.2	86.4	114.7
INCREASE OVER 1964 (1972)	—	-1.7	-12.2	-16.4	-7.4	-21.3	-22.9	-14.1	-2.3
% INCREASE OVER 1964 THEN	—	1.0	2.6	4.7	11.5	13.5	19.8	27.7	36.8
% INCREASE OVER 1964	—	-0.4	-2.8	-3.3	-1.7	-3.8	-3.4	-3.3	-0.3
M1	162.0	169.6	173.8	185.2	199.3	205.9	216.8	231.0	236.4
(10)									
M2	403.4	407.9	479.2	524.4	576.2	598.6	626.4	711.1	698.8
(10)									
M2 AS % OF GDP	63.4	59.0	65.1	66.1	65.8	63.4	63.1	65.0	72.5

NATURE OF FEDERAL DEBT, RELATION OF M1 AND M2 TO GDP

1980 - 1982

YEAR	1980	1981	1982
GDP	2533.1	2937.7	3037.5
(1)			
(1972)	1474.9	1582.6	1475.5
DEFLATOR (2)	178.6	191.5	207.2
NATIONAL DEBT	914.3	1082.9	1146.9
(4)			
(1972)	511.9	512.5	552.5
DEBT IN (22)			
NONMARKETABLE	594.5	628.2	684.4
SECURITIES			
NON-	311.9	312.9	316.4
MARKETABLE			
SECURITIES			
DEBT INCREASE			
OVER PREVIOUS	—	88.6	142.8
YEAR			
(1972)	—	1.6	48.8
\$ INCREASE	—	8.3	7.8
OVER PREVIOUS			
YEAR			
INCREASE OVER	—	81.6	232.6
1980 THEN			
INCREASE OVER	—	1.6	41.6
1972			
\$ INCREASE	—	9.8	25.4
OVER 1980			
THEN			
\$ INCREASE	—	8.3	8.1
OVER 1980			
THEN			
M1	414.6	448.9	478.5
(18)			
M2	1668.4	1894.2	1958.2
(18)			
M2 AS %	62.4	62.7	62.4
OF GDP			

SOURCES OF FEDERAL RECEIPTS, INTEREST RATES, EXPORTS, IMPORTS

1939 - 1946

YEAR	1939	1940	1941	1942	1943	1944	1945	1946
GDP	98.3	108.3	125.3	128.5	132.1	218.6	212.4	293.8
(1)								
(1972)	319.3	344.1	408.4	461.7	531.6	563.1	568.4	478.3
DEFLATOR (2)	28.4	29.1	31.2	34.3	35.1	37.8	37.9	43.8
FEDERAL RECEIPTS	5.7	8.6	12.4	22.9	35.3	41.8	42.5	38.1
(4)								
(1972)	23.6	25.6	49.4	66.8	108.9	118.8	112.1	88.3
SOURCES								
(7)								
INCOME TAX	2.4	2.6	3.3	3.9	17.8	18.9	28.8	18.7
(1972)	8.5	8.9	10.6	17.2	49.3	51.1	34.9	42.7
% FED REC	31.8	30.2	21.4	25.8	45.3	46.1	48.9	47.8
% GDP	2.6	2.6	2.6	3.7	9.3	9.8	9.8	8.9
CORPORATE TAX	1.4	2.8	7.6	11.4	14.1	12.9	11.8	9.1
(1972)	4.9	9.6	24.4	33.2	39.1	34.9	31.1	28.8
% FED REC	28.9	32.6	49.4	49.8	35.9	31.5	27.8	23.3
% GDP	1.5	2.8	6.1	7.2	7.3	6.1	5.6	4.3
OTHER TAXES	2.8	2.2	1.5	4.4	5.6	7.8	7.3	9.3
(1972)	7.8	7.6	11.2	12.8	15.5	18.9	19.3	21.2
% FED REC	29.9	25.8	22.7	19.2	14.2	17.1	17.2	23.8
% GDP	2.2	2.2	2.8	2.8	2.9	3.3	3.4	4.4
SOCIAL SEC	8.9	1.8	1.8	1.2	1.8	2.2	2.6	2.8
(1972)	3.2	3.4	3.2	3.5	5.8	5.9	6.9	4.6
% FED REC	12.4	11.6	6.5	5.2	4.6	5.4	6.1	5.1
% GDP	1.8	1.8	8.8	8.8	8.9	1.8	1.2	1.8
FED RESERVE DISCOUNT RATE	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
(8)								
PRIME RATE	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
EXPORTS (1)	4.6	5.4	6.1	5.8	4.6	5.5	7.4	15.1
% GDP	2.1	5.4	4.9	3.2	2.4	2.6	3.5	7.2
EXP INCLUDING								
SHIP-LAND (9)	4.7	5.7	7.5	12.4	19.9	21.9	17.1	—
% GDP	2.2	5.7	6.8	7.3	18.4	18.4	8.1	—
IMPORTS (1)	2.4	2.6	4.7	4.8	6.5	7.2	7.9	7.3
% GDP	2.7	2.6	2.8	3.8	3.4	3.4	3.7	2.5

SOURCES OF FEDERAL RECEIPTS, INTEREST RATES, EXPORTS, IMPORTS 1930 - 1933

YEAR	1930	1931	1932	1933
GDP	286.5	338.3	348.3	355.3
(1)				
(1972)	334.3	375.4	400.8	421.6
DEFLATOR (2)	51.6	57.1	57.9	58.3
FEDERAL RECEIPTS	58.9	64.3	67.3	70.1
(4)				
(1972)	92.3	112.6	116.2	119.2
SOURCES				
(16)				
INCOME TAX	28.6	28.9	34.8	35.5
(1972)	38.4	38.6	38.7	68.4
% FED REC	41.2	44.9	51.5	50.6
% GDP	7.2	8.7	9.8	9.7
COMPOSITE TAX	17.9	22.6	19.4	28.3
(1972)	33.4	38.6	33.5	34.5
% FED REC	35.4	35.1	28.8	25.8
% GDP	6.2	6.8	5.6	5.5
OTHER TAXES	8.6	9.4	18.1	18.3
(1972)	16.8	16.5	17.4	17.5
% FED REC	17.2	14.6	15.8	14.7
% GDP	3.0	2.8	2.9	2.8
SOCIAL SEC	2.9	3.4	3.8	4.8
(1972)	5.4	6.8	6.6	6.8
% FED REC	5.0	5.3	5.6	5.7
% GDP	1.0	1.0	1.1	1.1
FED RESERVE DISCOUNT RATE	1.6	1.8	1.8	1.9
(8)				
PRIME RATE	2.1	2.6	3.0	3.2
EXPORTS	14.4	15.7	15.1	18.8
% GDP	5.0	4.6	4.3	4.9
(1)				
IMPORTS	12.2	15.3	15.9	16.7
% GDP	4.3	4.5	4.6	4.6

SOURCES OF FEDERAL RECEIPTS, INTEREST RATES, EXPORTS, IMPORTS

1964 - 1972

YEAR	1964	1965	1966	1967	1968	1969	1970	1971	1972
GDP	537.7	591.1	735.8	799.8	873.4	944.8	992.7	1077.6	1185.9
(1)									
(1972)	576.4	595.3	748.8	811.4	893.1	1007.6	1085.6	1122.4	1185.9
DEFLATOR (2)	72.7	74.4	75.8	79.1	82.5	85.8	91.4	95.8	100.8
FEDERAL RECEIPTS	114.9	124.3	141.8	158.5	174.4	195.9	191.9	198.6	227.5
(4)									
(1972)	158.8	167.1	184.6	198.3	211.4	225.8	218.8	206.9	227.5
SOURCES									
(15)									
INCOME TAX	38.7	51.4	57.5	64.4	71.4	98.2	94.8	87.9	108.5
(1972)	63.7	62.1	74.9	81.4	85.5	103.9	102.8	91.6	108.5
1 FED REC	44.1	41.4	48.6	42.8	48.9	45.8	49.8	44.3	44.2
1 GDP	8.8	7.4	7.9	8.8	8.2	9.6	9.5	8.2	8.3
CORPORATE TAX	25.7	27.1	38.2	38.3	33.1	35.8	32.9	31.9	34.2
(1972)	33.4	35.4	48.1	38.3	48.1	42.4	35.8	33.2	34.2
1 FED REC	22.4	21.8	21.7	28.1	19.8	18.7	17.1	16.1	15.8
1 GDP	4.8	3.9	4.2	3.8	3.8	3.9	3.3	3.8	2.9
OTHER TAXES	15.6	15.9	15.5	15.8	17.1	18.6	19.2	28.8	19.9
(1972)	21.5	22.7	28.2	28.8	28.7	21.4	21.8	28.8	19.9
1 FED REC	13.6	12.6	18.9	18.5	9.8	9.4	18.8	18.1	6.7
1 GDP	2.4	2.4	2.1	2.8	2.8	2.8	1.9	1.9	1.7
SOCIAL SEC	21.6	24.5	28.9	25.5	38.5	44.2	48.8	52.6	58.9
(1972)	32.5	32.9	37.6	44.9	46.7	58.9	53.4	54.8	58.9
1 FED REC	28.5	23.7	28.4	23.6	22.1	22.4	25.4	26.5	25.9
1 GDP	3.7	3.5	4.8	4.4	4.4	4.7	4.9	4.9	5.8
FED RESERVE DISCOUNT RATE	3.6	4.8	4.5	4.2	5.2	5.9	5.9	4.9	4.8
(8)									
PRIME RATE	4.5	4.5	5.6	5.6	6.3	7.9	7.9	5.7	5.3
EXPORTS	38.8	41.1	44.6	47.3	52.4	57.5	63.7	68.8	77.5
1 GDP	6.1	5.9	5.9	5.9	6.8	6.1	6.6	6.4	6.5
(1)									
IMPORTS	28.8	32.3	38.1	41.7	48.1	53.3	55.8	54.7	76.7
1 GDP	4.5	4.7	5.8	5.1	5.5	5.6	5.9	5.8	6.5

SOURCES OF FEDERAL RECEIPTS, INTEREST RATES, EXPORTS, IMPORTS

1900 - 1902

YEAR	1900	1901	1902
GDP	2532.1	2937.7	3057.5
(1)			
(1972)	1474.3	1592.6	1475.5
DEFLATOR (2)	178.6	195.5	207.3
FEDERAL RECEIPTS	517.1	595.3	617.5
(4)			
(1972)	295.5	305.5	298.0
SOURCES			
(19)			
INCOME TAX	244.1	282.9	257.7
(1972)	135.7	146.2	143.6
1 FED REC	47.2	47.7	48.2
1 GDP	9.3	9.7	9.7
CORPORATE TAX	64.4	62.1	49.2
(1972)	35.1	32.3	23.7
1 FED REC	12.5	10.2	8.0
1 GDP	2.4	2.1	1.6
OTHER TAXES	50.6	65.6	65.4
(1972)	28.3	35.6	32.5
1 FED REC	9.8	11.6	11.2
1 GDP	1.9	2.4	2.3
SOCIAL SEC	157.8	182.7	201.5
(1972)	88.4	95.5	97.2
1 FED REC	38.5	38.5	32.6
1 GDP	6.8	6.2	6.6
FED RESERVE DISCOUNT RATE	11.0	12.4	11.0
(8)			
PRIME RATE	15.3	18.0	14.8
EXPORTS	339.2	367.3	349.7
1 GDP	12.9	12.5	11.4
(1)			
IMPORTS	314.8	341.3	332.2
1 GDP	11.3	11.6	10.9

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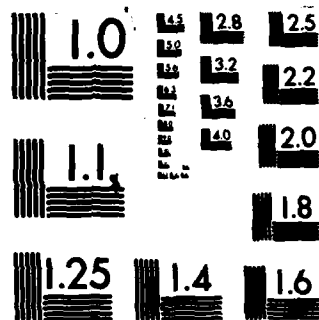
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FEDERAL EXPENDITURES, DEFENSE EXPENDITURE CHANGES

1939 - 1946

YEAR	1939	1940	1941	1942	1943	1944	1945	1946
SDP	98.3	108.3	125.3	158.5	192.1	218.6	212.4	289.8
(1)								
(1972)	215.4	344.1	468.4	461.7	531.6	559.1	554.4	478.3
DEFLATOR (2)	28.4	29.1	31.2	34.3	35.1	37.8	37.9	42.8
FEDERAL EXPENDITURES	9.9	18.8	28.5	55.1	85.4	95.5	84.6	55.6
(1972)	31.3	34.4	65.7	163.8	237.7	259.1	282.2	81.3
(7)								
DEFENSE	1.2	2.2	13.7	49.3	79.7	87.4	72.5	14.8
(1972)	4.2	7.6	42.9	142.7	228.4	235.2	192.9	32.8
1 FED EXP	13.5	28.0	65.8	87.9	92.9	91.5	85.9	41.8
1 SDP	1.3	2.2	11.0	31.1	41.5	41.5	34.6	7.1
TRANSFER	3.2	3.3	2.5	2.9	2.7	3.5	2.5	5.3
(1972)	11.3	11.3	8.3	8.5	7.5	9.5	9.2	12.1
1 FED EXP	35.0	32.0	12.2	5.2	3.1	3.7	4.1	14.9
1 SDP	3.5	3.3	2.8	1.8	1.4	1.7	1.6	2.5
DEPT SERVICE	8.9	1.0	1.1	1.3	1.8	2.6	3.6	4.7
(1972)	3.2	3.4	3.5	3.8	5.0	7.8	9.5	18.7
1 FED EXP	18.1	18.8	5.4	2.3	2.1	2.7	4.3	13.2
1 SDP	1.8	1.8	0.9	0.8	0.9	1.2	1.7	2.2
OTHER	2.9	3.9	3.2	2.6	1.6	2.8	4.8	18.8
(1972)	12.7	12.4	18.3	7.6	4.4	5.4	18.6	24.7
1 FED EXP	42.8	35.8	15.6	4.6	1.9	2.1	4.7	38.3
SDP	4.3	3.9	2.6	1.6	0.8	0.9	1.9	5.2
DEFENSE DCR OVER PREVIOUS YEAR (1972)	—	1.8	11.5	35.8	38.4	7.7	-13.9	-58.7
1 INCREASE	—	3.3	35.4	95.8	77.8	15.4	-42.3	-188.1
DEFENSE DCR OVER 1939 (1972)	—	78.9	408.3	227.3	52.6	7.8	-17.9	-82.8
1 INCREASE	—	1.8	12.5	48.1	78.5	85.2	72.3	13.6
1 SDP	—	3.3	32.7	128.5	216.6	232.0	188.7	28.6
1 INCREASE	—	82.3	184.7	408.3	654.7	712.3	682.8	1123.3
1 SDP	—	78.9	928.2	3381.7	5125.8	5498.5	4488.7	6878.7

FEDERAL EXPENDITURES, DEFENSE EXPENDITURE CHANGES

1950 - 1953

YEAR	1950	1951	1952	1953
GDP	285.5	338.8	348.8	355.8
(1)				
(1972)	534.8	575.4	608.8	623.6
DEFLATOR (2)	52.6	57.1	57.9	58.8
FEDERAL EXPENDITURES	46.8	57.8	72.1	77.1
(1972)	75.1	101.2	122.8	131.1
(16)				
DEFENSE	14.8	32.5	45.8	48.6
(1972)	25.1	58.7	79.1	82.7
1 FED EXP	34.3	58.8	64.4	63.8
1 GDP	4.9	18.1	13.2	13.3
TRANSFER	18.5	13.9	12.9	12.1
(1972)	19.6	24.3	32.3	28.3
1 FED EXP	25.7	24.8	18.1	17.8
1 GDP	3.7	4.2	3.7	3.6
DEBT SERVICE	3.8	5.6	5.9	6.5
(1972)	18.8	9.8	18.2	11.1
1 FED EXP	14.2	9.7	8.3	8.4
1 GDP	2.8	1.7	1.7	1.8
OTHER	18.5	4.8	6.5	8.9
(1972)	19.6	8.4	11.2	15.1
1 FED EXP	25.7	8.3	9.1	11.5
GDP	3.7	1.5	1.9	2.4
DEFENSE INCR OVER PREVIOUS YEAR (1972)	—	19.5	12.3	2.8
1 INCREASE	—	32.5	28.4	3.6
DEFENSE INCR OVER 1950 (1972)	—	19.5	31.8	34.6
1 INCREASE THEN (1972)	—	139.3	227.1	247.1
	—	124.6	202.8	216.4

FEDERAL EXPENDITURES, DEFENSE EXPENDITURE CHANGES

1964 - 1972

YEAR	1964	1965	1966	1967	1968	1969	1970	1971	1972
DDP	637.7	631.1	735.8	799.6	873.4	944.8	992.7	1077.6	1183.9
(1)									
(1972)	676.4	925.3	346.3	1811.4	1852.1	1887.6	1885.6	1122.4	1183.9
DEFLATOR (2)	72.7	74.4	76.7	79.1	82.3	86.8	91.4	96.8	100.0
FEDERAL EXPENDITURES	118.2	123.8	143.6	153.7	188.5	188.4	204.3	228.6	244.3
(1972)	162.6	186.4	187.2	287.8	218.8	217.1	223.5	223.8	244.3
(201)									
DEFENSE	49.8	49.4	68.3	71.5	76.9	76.3	73.6	78.2	73.1
(1972)	67.4	66.4	78.6	98.4	93.2	87.9	88.5	73.1	73.1
% FED EXP	41.5	38.9	42.8	42.7	42.6	40.5	36.8	31.8	29.9
% DDP	7.7	7.1	6.3	6.9	6.8	6.1	7.4	6.5	6.2
TRANSFER	34.7	37.7	45.4	52.3	68.3	68.4	77.3	92.6	106.3
(1972)	47.7	58.7	53.2	67.4	73.1	78.8	84.6	96.5	106.3
% FED EXP	29.4	30.5	31.6	32.6	32.4	36.3	37.8	42.8	43.5
% DDP	5.4	5.9	6.2	6.7	6.9	7.2	7.8	8.6	9.0
NET SERVICE	18.7	11.3	12.8	12.4	14.6	16.6	19.3	21.8	21.8
(1972)	14.7	15.2	15.6	16.9	17.7	19.1	21.1	21.9	21.8
% FED EXP	9.1	9.1	8.4	6.2	6.1	6.8	9.4	9.5	9.0
% DDP	1.7	1.6	1.6	1.7	1.7	1.8	1.9	1.9	1.8
OTHER	28.1	28.5	18.8	15.6	15.9	14.4	16.7	16.7	17.6
(1972)	27.6	27.6	23.5	19.7	19.3	16.6	18.3	17.4	17.6
% FED EXP	17.8	16.6	12.3	9.5	8.8	7.6	6.2	7.6	7.2
% DDP	3.2	3.0	2.5	1.9	1.8	1.5	1.7	1.5	1.5
DEFENSE INCR OVER PREVIOUS YEAR (1972)	—	0.4	18.9	11.2	3.4	-6.6	-2.7	-3.4	2.9
% INCREASE	—	-1.8	12.2	11.8	2.8	-5.3	-7.4	-7.4	-8.8
DEFENSE INCR OVER 1964 (1972)	—	0.4	11.3	28.5	27.9	27.3	24.6	21.2	24.1
% INCREASE	—	-1.8	11.2	23.8	25.8	28.5	12.1	5.7	5.7
DEFENSE INCR OVER 1964 YEAR (1972)	—	0.4	23.1	46.3	36.3	35.7	38.2	43.3	48.2
% INCREASE	—	-1.5	16.6	34.1	28.3	38.4	19.5	8.5	8.5

FEDERAL EXPENDITURES, DEFENSE EXPENDITURE CHANGES 1980 - 1982

YEAR	1980	1981	1982
GDP	2621.1	2937.7	3057.5
(1)			
(1978)	1474.9	1582.6	1472.5
DEFLATOR (2)	178.6	192.5	207.3
FEDERAL EXPENDITURES	576.7	637.2	728.4
(1978)	382.9	436.2	511.4
(23)			
DEFENSE	135.9	153.8	187.4
(1978)	76.1	81.7	98.4
1 FEB EXP	21.6	24.3	21.7
1 GDP	1.2	1.4	6.1
TRANSFER	118.2	154.7	179.6
(1978)	173.7	184.4	182.1
1 FEB EXP	32.8	34.8	32.1
1 GDP	11.8	12.1	12.4
HEAT SERVICE	32.5	68.7	84.7
(1978)	23.4	31.1	46.9
1 FEB EXP	9.1	18.5	11.6
1 GDP	2.8	2.3	2.8
OTHER	78.1	74.8	76.7
(1978)	42.7	37.9	37.8
1 FEB EXP	12.5	11.3	18.3
GDP	1.8	2.3	2.3
DEFENSE INCR OVER PREVIOUS YEAR (1978)	—	21.9	27.6
1 INCREASE	—	5.6	8.7
1 INCREASE	—	7.4	18.6
DEFENSE INCR OVER 1980 (1978)	—	21.9	31.3
1 INCREASE	—	5.6	14.3
1 INCREASE	—	17.6	37.9
1 INCREASE	—	7.4	18.8

NATURE OF PERSONAL CONSUMPTION, TAXES AND SAVINGS

1933 - 1946

YEAR	1939	1940	1941	1942	1943	1944	1945	1946
GDP (1)	98.3	100.8	125.3	151.2	192.1	219.6	212.4	299.3
(1972)	319.8	344.1	400.4	461.7	531.6	553.1	553.4	473.2
DEFLATOR (2)	28.4	29.1	31.2	34.3	36.1	37.3	37.9	42.3
PERSONAL INCOME	72.4	77.9	95.4	122.6	159.3	164.5	178.3	177.6
(1972)	254.9	267.7	305.8	357.4	417.7	444.6	448.5	485.5
(100)								
\$ GDP	73.7	77.8	76.4	77.4	78.6	78.1	80.0	84.8
PERSONAL CONSUMPTION	67.8	71.8	88.3	88.6	99.4	100.2	119.5	143.8
(1972)	235.9	244.0	285.8	293.3	275.3	292.4	315.3	328.3
(100)								
\$ INCOME	92.5	91.1	84.7	72.3	63.9	63.3	70.3	81.8
INTEREST PAID TO BUSINESS	3.7	3.8	2.9	0.7	0.5	0.5	2.5	0.7
(1972)	2.5	2.7	2.9	2.0	1.4	1.4	1.3	1.6
(100)								
\$ INCOME	1.8	1.8	0.9	0.6	0.3	0.3	0.3	0.4
TAXES PAID	2.4	2.6	3.3	5.9	17.9	18.9	20.8	18.7
(100)								
(1972)	8.5	8.9	10.6	17.2	49.6	51.1	54.3	42.7
\$ INCOME	3.3	3.3	3.5	4.8	11.9	11.5	12.2	10.5
SAVINGS	2.2	3.4	10.3	27.2	32.9	36.6	28.7	13.7
(100)								
(1972)	7.7	11.7	33.0	79.3	91.1	98.9	75.7	31.3
\$ INCOME	3.0	4.4	10.8	22.2	21.0	22.2	16.9	7.7
POPULATION (MILLIONS)	131.8	132.1	133.4	134.8	136.7	138.4	139.9	141.4
(11)								
PER CAPITA INCOME	552.7	589.7	715.1	909.5	1163.1	1188.6	1255.2	1255.3
(1972)	1946.8	2065.5	2292.1	2631.6	3055.8	3212.4	3296.3	2867.6
\$ INCREASE OVER 1939	—	4.1	17.8	36.3	57.8	63.1	64.3	47.4
MILITARY SPEND (MILLIONS)	0.4	0.5	1.6	3.9	8.9	11.3	11.6	2.3
(12)								

NATURE OF PERSONAL CONSUMPTION, TAXES AND SAVINGS 1950 - 1953

YEAR	1950	1951	1952	1953
GDP	286.3	328.3	348.3	356.3
(1)				
(1972)	534.8	579.4	628.3	622.5
DEFLATOR (2)	53.6	57.1	57.9	58.3
PERSONAL INCOME	287.2	254.9	271.8	257.7
(1972)	423.9	446.4	469.4	489.3
(18)				
% GDP	79.3	77.8	78.1	78.5
PERSONAL CONSUMPTION	192.8	207.1	217.1	229.7
(1972)	358.2	362.7	375.8	398.6
(18)				
% INCOME	84.5	81.2	79.9	79.8
INTEREST PAID TO BUSINESS	2.3	2.5	2.9	3.6
(1972)	4.3	4.4	5.8	6.1
(18)				
% INCOME	1.8	1.8	1.1	1.3
TAXES PAID	28.6	28.9	34.8	35.5
(18)				
(1972)	38.4	58.6	52.7	68.4
% INCOME	9.1	11.3	12.5	12.3
SAVINGS	11.9	16.1	17.4	18.5
(18)				
(1972)	22.2	28.2	38.1	31.5
% INCOME	5.2	6.3	6.4	6.4
POPULATION (MILLIONS)	151.7	154.3	156.9	159.6
(11)				
PER CAPITA INCOME	1497.7	1652.8	1732.3	1802.5
(1972)	2794.2	2951.1	2951.9	3062.7
% INCREASE OVER 1950	—	3.3	7.1	9.7
MILITARY PERS (MILLIONS)	1.4	1.3	1.7	1.6
(12)				

NATURE OF PERSONAL CONSUMPTION, TAXES AND SAVINGS

1964 - 1972

YEAR	1964	1965	1966	1967	1968	1969	1970	1971	1972
GDP (1)	537.7	631.1	735.8	799.6	873.4	944.8	992.7	1077.6	1185.3
(1972)	576.4	685.3	794.3	861.4	938.1	1007.6	1085.6	1122.4	1185.3
DEFLATOR (2)	72.7	76.4	78.7	79.1	82.5	86.8	91.5	96.8	100.0
PERSONAL INCOME (100)	449.2	540.7	588.2	538.3	638.6	754.7	811.1	868.4	931.4
(1972)	617.3	727.1	785.9	795.5	837.1	863.5	886.9	904.6	931.4
% GDP	78.5	78.2	80.8	78.7	79.1	79.9	81.7	80.6	80.2
PERSONAL (100) CONSUMPTION	400.5	426.4	465.1	498.3	526.9	581.8	621.7	672.2	737.1
(1972)	538.9	578.8	605.4	615.8	638.8	678.3	679.8	708.2	737.1
% INCOME	89.2	79.6	79.1	77.8	77.7	77.1	76.6	77.4	77.3
INTEREST PAID TO BUSINESS	9.3	11.1	12.8	12.5	13.8	15.6	16.7	17.7	19.3
(1972)	13.6	14.9	15.6	15.8	16.7	18.8	18.3	18.4	19.3
(100)	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0
% INCOME	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0
TAXES PAID (100)	58.6	64.9	76.5	82.1	97.2	115.7	115.8	116.7	141.0
(1972)	88.6	87.3	97.1	102.8	117.8	132.3	126.6	121.6	141.0
% INCOME	13.0	12.8	12.7	12.8	14.1	15.3	14.3	13.4	14.8
SAVINGS (100)	25.6	33.7	35.0	44.3	41.9	46.6	55.8	68.7	92.6
(1972)	48.7	45.3	46.9	56.0	58.3	46.8	61.8	63.2	92.6
% INCOME	6.6	6.2	6.1	7.0	6.1	6.4	6.9	7.8	9.3
POPULATION (BILLIONS)	191.3	194.3	196.6	198.7	200.7	202.7	205.1	207.7	209.9
(11)	2948.8	2782.8	2981.9	3178.6	3441.8	3723.2	3954.7	4181.8	4532.6
PER CAPITA INCOME	2343.8	2740.3	2986.7	4008.4	4178.9	4295.4	4294.4	4255.2	4532.6
(1972)	—	16.2	21.1	24.5	28.3	32.2	34.3	35.3	46.8
% INCREASE OVER 1964	—	16.2	21.1	24.5	28.3	32.2	34.3	35.3	46.8
MILITARY SPEND (BILLIONS)	2.7	2.8	3.1	3.4	3.4	3.3	2.8	2.7	2.3
(12)	—	—	—	—	—	—	—	—	—

NATURE OF PERSONAL CONSUMPTION, TAXES AND SAVINGS 1980 - 1982

YEAR	1980	1981	1982
GDP	2532.1	2537.7	2657.7
(1)			
(1972)	1474.9	1582.6	1475.5
DEFLATED (2)	178.6	191.5	207.3
PERSONAL INCOME	2168.2	2402.6	2588.1
(1972)	1288.5	1225.5	1286.8
(180)			
\$ GDP	82.8	81.8	81.7
PERSONAL CONSUMPTION	1577.2	1842.2	1972.8
(1972)	923.1	942.8	931.3
(180)			
\$ INCOME	77.6	76.7	78.9
INTEREST PAID TO BANKERS	42.9	35.1	38.6
(1972)	27.9	28.2	28.3
(180)			
\$ INCOME	2.3	2.3	2.3
TAXES PAID	326.3	386.7	387.2
(180)			
(1972)	188.3	197.8	191.6
\$ INCOME	15.6	16.1	15.9
SAVINGS	186.2	138.2	141.1
(180)			
(1972)	38.5	66.6	68.1
\$ INCOME	4.9	3.4	3.6
POPULATION (MILLIONS)	227.6	229.9	232.1
(11)			
PER CAPITA INCOME	9491.2	10435.8	10771.7
(1972)	5314.2	5347.8	5156.2
\$ INCREASE OVER 1980	—	8.6	-2.2
MILITARY PERS (MILLIONS)	2.8	2.1	2.1
(12)			

Footnotes

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